

ORDER FOR SUPPLIES OR SERVICES										PAGE 1 OF 98			
1. CONTRACT/PURCH. ORDER/ AGREEMENT NO. W912DW-05-P-0226			2. DELIVERY ORDER/ CALL NO. W912DW		3. DATE OF ORDER/CALL (YYYYMMDD) 2005 May 24		4. REQ./ PURCH. REQUEST NO. W68MD9-5110-5387		5. PRIORITY				
6. ISSUED BY USA ENGINEER DISTRICT, SEATTLE ATTN: CENWS-CT 4735 EAST MARGINAL WAY SOUTH SEATTLE WA 98134-2329			7. ADMINISTERED BY (if other than 6) USA ENGINEER DISTRICT, SEATTLE PATRICIA ORTIZ PH: 206-764-3516 FAX: 206-764-6817 PATRICIA.A.ORTIZ@US.ARMY.MIL SEATTLE WA		8. DELIVERY FOB <input checked="" type="checkbox"/> DESTINATION <input type="checkbox"/> OTHER (See Schedule if other)								
9. CONTRACTOR NAME: MARK PEDERSON AND: 1810 SCHNEIDMILLER AVENUE #140 ADDRESS: POST FALLS ID 83854-7040			10. DELIVER TO FOB POINT BY (Date) (YYYYMMDD) SEE SCHEDULE 12. DISCOUNT TERMS Net 14 Days		11. MARK IF BUSINESS IS <input checked="" type="checkbox"/> SMALL <input type="checkbox"/> SMALL DISADVANTAGED <input type="checkbox"/> WOMEN-OWNED		13. MAIL INVOICES TO THE ADDRESS IN BLOCK See Item 15						
14. SHIP TO ALBENI FALLS PROJECT OFFICE 2376 HIGHWAY 2 EAST OLDTOWN ID 83822-9243			15. PAYMENT WILL BE MADE BY US ARMY CORPS OF ENGRS FINANCE CENTER CEFC-AO-P 901-874-8556 5722 INTEGRITY DRIVE MILLINGTON TN 38054-5005		16. TYPE OF ORDER DELIVERY/ CALL PURCHASE <input checked="" type="checkbox"/>								
ACCEPTANCE. THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE NUMBERED PURCHASE ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR IS NOW MODIFIED, SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH, AND AGREES TO PERFORM THE SAME.													
NAME OF CONTRACTOR: _____ SIGNATURE: _____ TYPED NAME AND TITLE: _____ DATE SIGNED (YYYYMMDD): _____ <input type="checkbox"/> If this box is marked, supplier must sign Acceptance and return the following number of copies: _____													
17. ACCOUNTING AND APPROPRIATION DATA/ LOCAL USE See Schedule													
18. ITEM NO.		19. SCHEDULE OF SUPPLIES/ SERVICES				20. QUANTITY ORDERED/ ACCEPTED*		21. UNIT		22. UNIT PRICE		23. AMOUNT	
		SEE SCHEDULE											
* If quantity accepted by the Government is same as quantity ordered, indicate by X. If different, enter actual quantity accepted below quantity ordered and encircle.						24. UNITED STATES OF AMERICA TEL: (206) 764-3638 EMAIL: elaine.m.ebert@usace.army.mil BY: ELAINE M EBERT				25. TOTAL \$84,883.00 26. DIFFERENCES			
27a. QUANTITY IN COLUMN 20 HAS BEEN <input type="checkbox"/> INSPECTED <input type="checkbox"/> RECEIVED <input type="checkbox"/> ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED													
b. SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE						c. DATE (YYYYMMDD)		d. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE					
e. MAILING ADDRESS OF AUTHORIZED GOVERNMENT REPRESENTATIVE						28. SHIP NO.		29. DO VOUCHER NO.		30. INITIALS			
f. TELEPHONE NUMBER		g. E-MAIL ADDRESS				<input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL		32. PAID BY		33. AMOUNT VERIFIED CORRECT FOR			
36. I certify this account is correct and proper for payment.						31. PAYMENT		34. CHECK NUMBER		35. BILL OF LADING NO.			
a. DATE (YYYYMMDD)		b. SIGNATURE AND TITLE OF CERTIFYING OFFICER				<input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL							
37. RECEIVED AT		38. RECEIVED BY		39. DATE RECEIVED (YYYYMMDD)		40. TOTAL CONTAINERS							41. S/R ACCOUNT NO.

Section B - Supplies or Services and Prices

**THIS REQUEST FOR QUOTATION IS RESTRICTED TO SMALL BUSINESS CONCERNS
FOR THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM**

Payment Bond must be received no later than ten calendar days after the effective date of award.

Notice to Proceed will be issued under separate cover upon receipt of Payment Bond.

Point of contact for this project is James Phillip, 509 244-5571, ext 1249..

The Administrative Contracting Officer for this project is George P. Henry, 253 966-4358.

All work will need to be completed no later than 24 June 2005.

POINTS OF CONTACT.

Send all correspondence to:

U.S. Army Corps of Engineers
Small Projects Office
ATTN: Becky Dansereau
PO Box 92146
Tillicum, WA 98429 – 0146

Payroll Support: Submit certified payrolls to the address listed below:

U.S. Army Corps of Engineers
ATTN: Kristine Dillion
4735 E. Marginal Way S
Seattle WA 98134-2385
Office (206) 764-7202

**THIS REQUEST FOR QUOTATION IS RESTRICTED TO SMALL BUSINESS CONCERNS
FOR THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM**

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001		1	Lump Sum	\$84,883.00	\$84,883.00
	VISTA LANDSCAPING - ALBENI FALLS				
	FFP				
	Provide all plants, labor, equipment and materials needed to perform all work in strict accordance with the contract specifications, photographs and drawings in accordance with the Statement of Work dated 27 April 2005. The Davis Bacon Wage General Decision ID030001, dated 06/13/2003 are hereby incorporated.				
	PURCHASE REQUEST NUMBER: W68MD9-5110-5387				
				NET AMT	\$84,883.00
	ACRN AA Funded Amount				\$84,883.00

ACCOUNTING AND APPROPRIATION DATA

AA: 96X31230000 082433 32305LGB2J000200 NA 96453
 COST 000000000000
 CODE:
 AMOUNT: \$84,883.00

Scope of Work
Vista Area Landscaping
Albeni Falls Dam
27 April 2005

GENERAL

1. Description of Work. Provide all plants, labor, equipment and materials needed to perform all work in strict accordance with the contract specifications, photographs and drawings.
2. Area Description. Albeni Falls Dam, 2376 Highway 2, Oldtown ID.
3. Permits. The Corps of Engineers will obtain all permits associated with the landscaping improvements.
4. Site Visit is scheduled for Tuesday, 3 May 2005, 1:30 PM at the Visitors Center Parking Area located on 2376 Highway 2, Oldtown, Idaho. Point of contact for this project is Mr. Jim Phillip who can be reached a (509) 244-5571.
5. References.
 - WSDOT Standard Specification for Road, Bridge, and Municipal construction
 - American Concrete Institute
 - National Electric Code
 - Architectural Graphic Standards

PRINCIPLE ITEMS OF WORK

1. Relandscape the area around the Visitor Center building as indicated on drawing L-6 thru L-9 and other areas around Albeni Falls Dam as indicated on the attached specifications. This shall include planting shrubs, trees, and grass, hydro-seeding, installing concrete pavers, designing and installing two irrigation systems, constructing a retaining wall, terraced landscaping walls, concrete mow edge, landscape block stair with handrail, and cement stair with code compliant handrail, constructing a 4" thick concrete picnic table slab, and installing topsoil as indicated. Contractor shall use government-supplied materials first and then supplement as needed.
2. Base Item:
 - a. Concrete block retaining walls. Construct three terraced retaining walls on the west side of the visitors' center between the building and the radio tower. Install two terraced retaining walls on the east and west side of the paving block area. These terraced walls shall be constructed with the 6" x 12" x 16" sandstone nursery blocks. The lowest level of the terraces on each side of the pavers shall incorporate a row of capstones of the same

design as the nursery blocks and provide a smooth seating surface with and overall height of 17" - 18". Installation shall be per manufacturers instructions.

b. Concrete mow edge. Provide a concrete mow edge in accordance with sheet L-6 and L-8. Contractor shall provide all necessary materials and labor to construct a 6" wide, professionally molded concrete mow strip along the east side of the visitors' center. The concrete shall have a minimum 28-day curing strength of 3500 psi and a light broom finish.

c. Concrete Picnic Table Slab. Pour a 4" thick concrete slab with a 28-day curing strength of 3500 psi in accordance with sheet L-9 and applicable building codes. Contractor will perform all preparations for pouring concrete to include installing compacted sub-grade material, compacted to 95%, and building concrete forms. Slab shall be sloped from the center out for water run-off and shall have a light broom finish.

d. Stairs with handrails. Concrete stairs shall be designed and poured in place in accordance with sheet L-6 and attached sketch. Stairs shall be designed with a rise no greater than 7" and a run of no less than 11". Stairs must be anchored to the structure with a doveled expansion joint in accordance with applicable building codes and attached sketch. Reinforcement and nosing bars shall be used to ensure structural integrity and an architecturally accepted nosing method shall be employed on each step. A code compliant handrail shall be installed on both sides of the stairway. This stair rail shall have imbedded posts and be able to withstand a load of 200 lbs both vertically and laterally. There shall also be a lockable gate connected to the handrails at the top of the stairs for security purposes. This gate shall be of the same design and materials as the stair rail.

e. Concrete paving blocks. Install 4" x 8" block pavers at the rear of the Visitors' Center. A 4" layer of 5/8" (-) crushed rock shall be compacted to 95% and a 2" layer of sand shall be placed underneath the pavers per manufacturer's recommendations. A 12" wide concrete edge restraint border shall be placed around the paving area where needed and a plastic or metal brick retaining edge on each side of the paving area in accordance with sheet L-8 and attached cross section view. The paving blocks shall be level with the concrete edge restraint for handicap accessibility. The paving blocks shall be laid in a herringbone pattern and compacted per manufacturer's recommendations.

f. Planting trees, bushes, and flowers. All plants, trees, and bushes shall be planted in accordance with sheet L-6 and L-8. Government furnished planting materials shall be used up first and supplemented with contractor provided materials. All plantings shall be covered with a weed blocking material and covered with washed river rock 2" – 3" in size. Any plants that are disturbed in the process of completing this contract shall be replanted in accordance with these same specifications and manufacturers' recommendations.

g. Irrigation system V.C. Design and install an irrigation system for the designated areas on sheet L-6 and in accordance with sheet L-9. This system shall add on to the existing irrigation system. Government supplied materials shall be used up first and any extra are to remain property of the government. The contractor shall supplement any additional materials needed. At least one extra irrigation circuit shall be designed in for future

expansion. Irrigation system design is to be submitted to the POC for final approval before installation.

h. Irrigation system front gate. Design and install an irrigation system at the front gate area and the pump house area across the street in accordance with the attached sketch and sheet L-9. This system will expand on the existing irrigation system for that area. Government supplied materials are to be used up first and any extras are to remain property of the government. The contractor shall supplement any additional materials needed. Irrigation system design is to be submitted to the POC for final approval before installation.

i. Landscape block stair with handrail. Construct a stairway with a code compliant handrail from the powerhouse up to the sewage treatment facility in accordance with the attached drawing and applicable building codes. There is currently a trail leading up the hill where this stairway is to be constructed with a handrail that will need to be removed and replaced. Government supplied materials are to be used up first and any extras are to remain property of the government. The contractor shall supplement any additional materials needed.

CONTRACT AND ADMINISTRATION REQUIREMENTS

- 1) Construction Phasing and Restrictions: The following phasing and restriction related issues may affect the work:
 - a. Any utility outages shall be coordinated at least 7 (seven) calendar days prior to proposed outages. Outages shall be scheduled to minimize interruptions to normal agency operations in the facility.
 - b. The Contractor shall observe all local, state, and federal regulations while performing this contract and all construction will meet or exceed applicable industry standards. All electrical installation shall comply with the latest edition National Electrical Code. Installation shall be of an industrial grade and performed by journeyman electricians.
 - c. The contractor shall attend a pre-work meeting presided by the C.O.E Project Lead prior to commencing construction activities. The contractor shall submit a construction schedule at that meeting for government approval unless the government has previously approved these items. The schedule shall be in sufficient detail to identify all aspects of the work including outages. The schedule shall show project tasks with durations start and finish times.
- 2) Construction Facilities and Temporary Controls:
 - a. The Government shall make available to the Contractor, from existing outlets and supplies, reasonable amounts of potable water without charge. The Contractor shall conserve potable water furnished.

- b. Subject to available supply, reasonable amounts of electric current shall be made available by the Government, without charge, to the Contractor for performing work at the work area. The Contractor shall carefully conserve electricity furnished.
 - c. A staging area shall be provided for the contractor as directed by the COR.
 - d. Work shall be performed between the hours of 7:00 AM and 5:00 PM Monday through Thursday unless an alternate work schedule is approved by the COR.
 - e. The Contractor is responsible for security of his own property and security of government property when construction activities affect existing security measures.
- 3) Quality Control. Provide a quality control plan for the work to be performed. The plan shall include, as a minimum, a preparatory inspection, a procedure for defining and tracking submittals, and a procedure for generating and tracking deficiency reports.
- a. The preparatory inspection shall include the review of specifications, contract plans, and activity hazard analysis, a check of materials, an examination of the work area, and a discussion of procedures. The preparatory inspection shall be held on the following definable features: Demolition, Earthwork, Underground Sprinkler Systems, Seeding, and Planting.
 - b. The procedure to define and track submittals shall include a submittal register (form 4288-R) that is to be submitted within ten calendar days of award of the contract.
 - c. Daily quality assurance reports shall be done by the contractor and any construction deficiencies shall be noted and tracked with these reports.
- 4) Performance Period. The Contractor shall be required to commence work within 10 calendar days after the date the Contractor receives the notice to proceed and complete all work under the Base Bid Item of this contract, including final cleanup of the premises, within 60 calendar days after Notice to Proceed
- 5) Environmental Clearances. All of the required environmental clearances have been or will be obtained by the government and will be available through the project lead or one of the POCs before construction begins and will remain available through the end of the project.
- 6) Submittals.
- a. All items listed below or required per the contract specification shall be submitted for review or approval as indicated. Any proposal deviations to the design shall be submitted for approval prior to installation. ENG Form 4025 shall accompany all submittals.

<u>Spec Section</u>	<i>Activity</i>	<i>Submittal</i>
SOW	Project Schedule (Government Approval prior to construction start).	Project Schedule Identification of definable features of work Site specific safety plan Subcontractor List Hazard Analysis
SOW	Design (Government approval prior to NTP)	
SOW	Certification of Compliance	
SOW	O&M Manuals/ As-Built Drawings	

Government Furnished Plants and Trees

3 – Burning Bush
 1 – Forsythia
 8 – Wine and Roses Weigelia
 2 – Bridal Wreath Spirea
 2 – Dwarf Compact Viburnum
 4 – Dwarf Forsythia
 4 – (1 gallon) White Potuntilla
 1 – Pink Dogwood
 2 – Mock Orange
 1 – Bouchalti Dogwood
 3 – PJM Rhododendrons
 1 – Bridal Wreath Spirea
 6 – Crispa Spirea
 16 – Little Princess Spirea
 6 – Rhododendrons
 9 – Spirea (Anthony Waterer and Dwarf Red Flowering)
 10 – Mixed Shrubs (1Dwarf Kelsey Dogwood, 2 Forsythia, 2 Lilacs, 2 Van Houttei Spirea (Bridal Wreath), 1 Shirobana Spirea, 1 Anthony Waterer Spirea, and 1 Dwarf Cranberry Bush)

Trees and plants shall be installed per the attached detail on sheet L-8.

Other Government Supplied Materials

36 – Bags of Compost

5100 - 4" x 8" Patio Pavers
720 - 6" x 12" x 16" Sandstone Nursery Blocks
- Irrigation Materials
38 - Schedule 40 PVC 1" Street ELL
26 - 2" x 20' schedule 40 PVC Pipe
15 - 1-1/2" x 20' Schedule 40 PVC Pipe
5 - 2" PVC Tee
6 - 2" PVC 45 deg elbow
6 - 2" PVC 90 deg elbow
6 - 2" PVC Male Adapter
6 - 2" PVC Coupling
1 - 2" White PVC Ball Valve
4 - 1-1/2" PVC 45 deg elbow
4 - 1-1/2" PVC 90 deg elbow
4 - 1-1/2" PVC Coupling
3 - 12" Standard Rectangular Valve Box
1 - 160-508 2" EZ Span Coupling
4 - 2" - 1-1/2" Reducer Bushing
5 - 2" x 2" x 1" Reducer Tee
5 - 1-1/2" x 1-1/2" x 1" Reducer Tee
19 - 1" x 10" Schedule 80 nipple
15 - Hunter 125ADJ Sprinkler Head
6 - Hunter 12536V Sprinkler Head
25 - DS-400 Splice

All excess furnished materials shall remain the property of the government.

POINTS OF CONTACT.

Send all correspondence to:

U.S. Army Corps of Engineers
Small Projects Office
ATTN: Becky Danserue
PO Box 92146
Tillicum, WA 98429 - 0146

Project Lead is:

James Phillip
(509) 244-5571 x 1249

Quality Assurance Representative is:

TBD

Payroll Support: Submit certified payrolls to the address listed below:

U.S. Army Corps of Engineers
ATTN: Kristine Dillion

4735 E. Marginal Way S
Seattle WA 98134-2385
Office (206) 764-7202

SECTION 02220

SECTION 02220

DEMOLITION

GENERAL**REFERENCES**

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ENGINEERING MANUALS (EM)

EM 385-1-1

(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual

GENERAL REQUIREMENTS

The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. Rubbish and debris shall be removed from Government property daily, unless otherwise directed, to avoid accumulation at the demolition site. Materials that cannot be removed daily shall be stored in areas specified by the Contracting Officer. In the interest of occupational safety and health, the work shall be performed in accordance with EM 385-1-1, Section 23, Demolition, and other applicable Sections. In the interest of conservation, salvage shall be pursued to the maximum extent possible; salvaged items and materials shall be disposed of as specified.

SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be

submitted in accordance with Section 01330 SUBMITTAL PROCEDURES as required/indicated for each Delivery Order:

SD-03 Product Data

Work Plan;

The procedures proposed for the accomplishment of the work. The procedures shall provide for safe conduct of the work, including procedures and methods to provide necessary supports, lateral bracing and shoring when required, careful removal and disposition of materials specified to be salvaged, protection of property which is to remain undisturbed, coordination with other work in progress, and timely disconnection of utility services. The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations in accordance with EM 385-1-1.

DUST CONTROL

The amount of dust resulting from demolition shall be controlled to prevent the spread of dust to occupied portions of the construction site and to avoid creation of a nuisance in the surrounding area. Use of water will not be permitted when it will result in, or create, hazardous or objectionable conditions such as ice, flooding and pollution.

PROTECTION

Protection of Personnel

During the demolition work the Contractor shall continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site. No area, section, or component of floors, roofs, walls, columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area.

Protection of Existing Property

Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The Contractor shall take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Government; any damaged items shall be repaired or replaced as approved by the Contracting Officer. The Contractor shall coordinate the

work of this section with all other work and shall construct and maintain shoring, bracing, and supports as required. The Contractor shall ensure that structural elements are not overloaded and shall be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

Protection of Trees

Trees within the project site which might be damaged during demolition and which are indicated to be left in place shall be protected by a 6 foot high fence. The fence shall be securely erected a minimum of 5 feet from the trunk of individual trees or follow the outer perimeter of branches or clumps of trees. Any tree designated to remain that is damaged during the work under this contract shall be replaced in kind or as approved by the Contracting Officer. Care shall be exercised when excavating in the vicinity of trees indicated to be left in place. Where roots 2 inches in diameter or greater are found, the soils shall be excavated by hand and tunneled. When large roots are exposed, they shall be wrapped with a heavy burlap for protection and to prevent drying. Excavations dug by machines adjacent to trees having roots less than 2 inches in diameter shall have the sides hand trimmed, making a clean cut of the roots. Excavations having exposed tree roots shall be backfilled within 24 hours unless roots are adequately protected by moist burlap or canvas.

Environmental Protection

The work shall comply with the requirements of Section 01410 ENVIRONMENT PROTECTION.

BURNING

The use of burning at the project site for the disposal of refuse and debris will not be permitted

USE OF EXPLOSIVES

Use of explosives will not be permitted.

AVAILABILITY OF WORK AREAS

Areas in which the work is to be accomplished will be available in accordance with the schedule established during preconstruction coordination for the Delivery Order.

EXECUTION

EXISTING STRUCTURES

Existing structures indicated shall be removed as indicated.

UTILITIES

Existing utilities shall be removed as indicated. When utility lines are encountered that are not indicated on the drawings, the Contracting Officer shall be notified prior to further work in that area.

FILLING

Holes, open basements and other hazardous openings shall be filled as indicated.

DISPOSITION OF MATERIAL

Title to material and equipment to be demolished, except Government salvage and historical items, is vested in the Contractor upon receipt of notice to proceed. The Government will not be responsible for the condition, loss or damage to such property after notice to proceed.

Salvageable Items and Material

Contractor shall salvage items and material to the maximum extent possible.

Material Salvaged for the Contractor

Material salvaged for the Contractor shall be stored as approved by the Contracting Officer and shall be removed from Government property before completion of the contract. Material salvaged for the Contractor shall not be sold on the site.

Items Salvaged for the Government

Salvaged items to remain the property of the Government shall be removed in a manner to prevent damage, and packed or crated to protect the items from damage while in storage or during shipment. Items damaged during removal or storage shall be repaired or replaced to match existing items. Containers shall be properly identified as to contents.

Historical Items

Historical items shall be removed in a manner to prevent damage. The following historical items shall be delivered to the Government for disposition: Corner stones, contents of corner stones, and document boxes wherever located on the site.

Unsalvageable Material

Concrete, masonry, and other noncombustible material, except concrete permitted to remain in place, shall be disposed of off post.

CLEAN UP

Debris and rubbish shall be removed from basement and similar excavations. Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

PAVEMENTS

Existing pavements designated for removal shall be saw cut and removed in accordance with the details shown on the drawings and to the limits and depths indicated.

END OF SECTION

SECTION 02230

SECTION 02230

CLEARING AND GRUBBING

1 GENERAL

1.1 DEFINITIONS

1.1.1 Clearing

Clearing shall consist of the felling, trimming, and cutting of trees into sections and the satisfactory disposal of the trees and other vegetation designated for removal, including down timber, snags, brush, and rubbish occurring in the areas to be cleared.

1.1.2 Grubbing

Grubbing shall consist of the removal and disposal of stumps, roots larger than 3 inches in diameter, and matted roots from the designated grubbing areas.

1.2 SUBMITTALS

None .

2 PRODUCTS (NOT APPLICABLE)

3 EXECUTION

3.1 CLEARING

Trees, stumps, roots, brush, and other vegetation in areas to be cleared shall be cut off flush with or below the original ground surface, except such trees and vegetation as may be indicated or directed to be left standing. Trees designated to be left standing within the cleared areas shall be trimmed of dead branches 1-1/2 inches or more in diameter and shall be trimmed of all branches the heights indicated or directed. Limbs and branches to be trimmed shall be neatly cut close to the bole of the tree or main branches. Cuts more than 1-1/2 inches in diameter shall be painted with an approved tree-wound paint. Trees and vegetation to be left standing shall be protected from damage incident to clearing, grubbing, and construction operations by the erection of barriers or by such other means as the circumstances require. Clearing shall also include the removal and disposal of structures that obtrude, encroach upon, or otherwise obstruct the work.

3.2 GRUBBING

Material to be grubbed, together with logs and other organic or metallic debris not suitable for foundation purposes, shall be removed to a depth of not less than 18 inches below the original surface level of the ground in areas indicated to be grubbed and in areas indicated as construction areas under this contract, such as areas for buildings, and areas to be paved. Depressions made by grubbing shall be filled with suitable material and compacted to make the surface conform with the original adjacent surface of the ground.

3.3 DISPOSAL OF MATERIALS

3.3.1 Materials Other Than Salable Timber

Logs, stumps, roots, brush, rotten wood, and other refuse from the clearing and grubbing operations, except for salable timber, shall be disposed of outside the limits of Government-controlled land at the Contractor's responsibility, except when otherwise directed in writing. Such directive will state the conditions covering the disposal of such products and will also state the areas in which they may be placed.

END OF SECTION

SECTION 02300

SECTION 02300

EARTHWORK

GENERAL

DEFINITIONS

Degree of Compaction

Degree of compaction required is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 1557 abbreviated as a percent of laboratory maximum density.

1.2.5 Topsoil

Material obtained from off-site areas, excavations, or areas indicated on the drawings, suitable for topsoils, is defined as sandy loam, sandy clay loam, clay loam, silty clay loam, or silt loam soils as described by USDA textural class. Topsoil shall have a maximum of 3 percent retained on a 1/4inch screen and a minimum of 5 percent passing through a 120mesh screen. Topsoil shall contain 5-20 percent by volume of mixed, composted, fine-particle organic matter. Topsoil will be obtained from well drained areas and shall not contain more than 5 percent water by volume.

The topsoil shall be free from debris, noxious weeds, rhizomes, roots, toxic substances, or any other material that may be harmful to plant growth. Decomposed wood derivatives (ground bark, sawdust, or other wood waste) used in the topsoil shall be free of weeds, weed seeds, and sticks and fully decomposed a minimum of 6 months or stabilized with nitrogen. The pH shall be between 5.5 and 7.5. Soluble soils shall not exceed 500 ppm. Each delivery shall be accompanied by a guaranteed statement of analysis listing the percent of organic matter and the pH.

SUBSURFACE DATA

Subsurface soil boring logs, **if any**, are available at PW or Seattle District Corps of Engineers. The subsoil investigation report and samples of materials taken from subsurface investigations may be examined when available. These data represent the best subsurface information available; however, variations may exist in the subsurface between boring locations.

Common Excavation

Common excavation shall include the satisfactory removal and disposal of all materials not classified as rock excavation.

BLASTING

Blasting will not be permitted.

UTILIZATION OF EXCAVATED MATERIALS

Unsatisfactory materials removed from excavations shall be disposed off post. Satisfactory material removed from excavations shall be used, insofar as practicable, in the construction of fills, embankments, subgrades, shoulders, bedding (as backfill), and for similar purposes.

EXECUTION

STRIPPING OF TOPSOIL

Where indicated or directed, topsoil shall be stripped to a depth of 8 inches or as indicated. Topsoil shall be spread on areas already graded and prepared for topsoil, or transported and deposited in stockpiles convenient to areas that are to receive application of the topsoil later, or at locations indicated or specified. Topsoil shall be kept separate from other excavated materials, brush, litter, objectionable weeds, roots, stones larger than 2 inches in diameter, and other materials that would interfere with planting and maintenance operations. Any surplus of topsoil from excavations and grading shall be removed from the site.

GENERAL EXCAVATION

The Contractor shall perform excavation of every type of material encountered within the limits of the project to the lines, grades, and elevations indicated and as specified. Grading shall be in conformity with the typical sections shown and the tolerances specified in paragraph FINISHING. Satisfactory excavated materials shall be transported to and placed in fill or embankment within the limits of the work. Unsatisfactory materials encountered within the limits of the work shall be excavated below grade and replaced with satisfactory materials as directed. Such excavated material and the satisfactory material ordered as replacement shall be included in excavation. Surplus satisfactory excavated material not required for fill or embankment shall be disposed of in areas approved for surplus material storage or designated waste areas. Unsatisfactory excavated material shall be disposed of in designated waste or spoil areas. During construction, excavation and fill shall be performed in a manner and sequence that will provide proper drainage at all times. Material required for fill or embankment in excess of that produced by excavation within the grading limits shall be provided by the Contractor from off-post.

Ditches, Gutters, and Channel Changes

Excavation of ditches, gutters, and channel changes shall be accomplished by cutting accurately to the cross sections, grades, and elevations shown. Ditches and gutters shall not be excavated below grades shown. Excessive open ditch or gutter excavation shall be backfilled with satisfactory, thoroughly compacted, material or with suitable stone or cobble to grades shown. Material excavated shall be disposed of as shown or as directed, except that in no case shall material be deposited less than 4 feet from the edge of a ditch. The Contractor shall maintain excavations free from detrimental quantities of leaves, brush, sticks, trash, and other debris until final acceptance of the work.

Drainage Structures

Excavations shall be made to the lines, grades, and elevations shown, or as directed. Trenches and foundation pits shall be of sufficient size to permit the placement and removal of forms for the full length and width of structure footings and foundations as shown. Rock or other hard foundation material shall be cleaned of loose debris and cut to a firm, level, stepped, or serrated surface. Loose disintegrated rock and thin strata shall be removed. When concrete or masonry is to be placed in an excavated area, the bottom of the excavation shall not be disturbed. Excavation to the final grade level shall not be made until just before the concrete or masonry is to be placed. Where pile foundations are to be used, the excavation of each pit shall be stopped at an elevation 1 foot above the base of the footing, as specified, before piles are driven. After the pile driving has been completed, loose and displaced material shall be removed and excavation

completed, leaving a smooth, solid, undisturbed surface to receive the concrete or masonry.

SELECTION OF BORROW MATERIAL

Borrow material shall be selected to meet the requirements and conditions of the particular fill or embankment for which it is to be used. Borrow material shall be obtained from approved locations off-post selected by the Contractor. Unless otherwise provided in the contract, the Contractor shall obtain from the owners the right to procure material, pay royalties and other charges involved, and bear the expense of developing the sources, including rights-of-way for hauling. Unless specifically provided, no borrow shall be obtained within the limits of the project site without prior written approval. Necessary clearing, grubbing, and satisfactory drainage of borrow pits and the disposal of debris thereon shall be considered related operations to the borrow excavation.

BACKFILL

Backfill adjacent to any and all types of structures shall be placed and compacted to at least 90 percent laboratory maximum density for cohesive materials or 95 percent laboratory maximum density for cohesionless materials to prevent wedging action or eccentric loading upon or against the structure. Ground surface on which backfill is to be placed shall be prepared as specified in paragraph PREPARATION OF GROUND SURFACE FOR EMBANKMENTS. Compaction requirements for backfill materials shall also conform to the applicable portions of paragraphs PREPARATION OF GROUND SURFACE FOR EMBANKMENTS, EMBANKMENTS, and SUBGRADE PREPARATION, and Section 02630 STORM-DRAINAGE SYSTEM; and Section 02316 EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS. Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment.

PREPARATION OF GROUND SURFACE FOR EMBANKMENTS

General Requirements

Ground surface on which fill is to be placed shall be stripped of live, dead, or decayed vegetation, rubbish, debris, and other unsatisfactory material; plowed, disked, or otherwise broken up to a depth of 8 inches; pulverized; moistened or aerated as necessary; thoroughly mixed; and compacted to at least 90 percent laboratory maximum density for cohesive materials or 95 percent laboratory maximum density for cohesionless materials. Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment. The prepared ground surface shall be scarified

and moistened or aerated as required just prior to placement of embankment materials to assure adequate bond between embankment material and the prepared ground surface.

Frozen Material

Embankment shall not be placed on a foundation which contains frozen material, or which has been subjected to freeze-thaw action. This prohibition encompasses all foundation types, including the natural ground, all prepared subgrades (whether in an excavation or on an embankment) and all layers of previously placed and compacted earth fill which become the foundations for successive layers of earth fill. All material that freezes or has been subjected to freeze-thaw action during the construction work, or during periods of temporary shutdowns, such as, but not limited to, nights, holidays, weekends, winter shutdowns, or earthwork operations, shall be removed to a depth that is acceptable to the Contracting Officer and replaced with new material. Alternatively, the material will be thawed, dried, reworked, and recompact to the specified criteria before additional material is placed. The Contracting Officer will determine when placement of fill shall cease due to cold weather. The Contracting Officer may elect to use average daily air temperatures, and/or physical observation of the soils for his determination. Embankment material shall not contain frozen clumps of soil, snow, or ice.

SUBGRADE PREPARATION

Construction

Subgrade shall be shaped to line, grade, and cross section, and compacted as specified. This operation shall include plowing, disking, and any moistening or aerating required to obtain specified compaction. Soft or otherwise unsatisfactory material shall be removed and replaced with satisfactory excavated material or other approved material as directed. Rock encountered in the cut section shall be excavated to a depth of 6 inches below finished grade for the subgrade. Low areas resulting from removal of unsatisfactory material or excavation of rock shall be brought up to required grade with satisfactory materials, and the entire subgrade shall be shaped to line, grade, and cross section and compacted as specified. After rolling, the surface of the subgrade for roadways shall not show deviations greater than 1 inch when tested with a 10 foot straightedge applied both parallel and at right angles to the centerline of the area. The elevation of the finish subgrade shall not vary more than 0.05 foot from the established grade and cross section.

Compaction

Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment. Except for paved areas and railroads, each layer of the embankment shall be compacted to at least 85 percent of laboratory maximum density.

Subgrade for Pavements

Subgrade for pavements shall be compacted to at least 90 percentage laboratory maximum density for the depth below the surface of the pavement shown. When more than one soil classification is present in the subgrade, the top 8 inches of subgrade shall be scarified, windrowed, thoroughly blended, reshaped, and compacted.

Subgrade for Shoulders

Subgrade for shoulders shall be compacted to at least 85 percentage laboratory maximum density for the depth below the surface of shoulder shown.

FINISHING

The surface of excavations, embankments, and subgrades shall be finished to a smooth and compact surface in accordance with the lines, grades, and cross sections or elevations shown. The degree of finish for graded areas shall be within 0.1 foot of the grades and elevations indicated except that the degree of finish for subgrades shall be specified in paragraph SUBGRADE PREPARATION. Gutters and ditches shall be finished in a manner that will result in effective drainage. The surface of areas to be turfed shall be finished to a smoothness suitable for the application of turfing materials.

PLACING TOPSOIL

On areas to receive topsoil, the compacted subgrade soil shall be scarified to a 2 inch depth for bonding of topsoil with subsoil. Topsoil then shall be spread evenly to a thickness of 6 inches and graded to the elevations and slopes shown. Topsoil shall not be spread when frozen or excessively wet or dry. Material required for topsoil in excess of that produced by excavation within the grading limits shall be obtained from offsite areas.

Tolerance Tests for Subgrades

Continuous checks on the degree of finish specified in paragraph SUBGRADE PREPARATION shall be made during construction of the subgrades.

SUBGRADE AND EMBANKMENT PROTECTION

During construction, embankments and excavations shall be kept shaped and drained. Ditches and drains along subgrade shall be maintained to drain effectively at all times. The finished subgrade shall not be disturbed by traffic or other operation and shall be protected and maintained by the Contractor in a satisfactory condition until ballast, subbase, base, or pavement is placed. The storage or stockpiling of materials on the finished subgrade will not be permitted. No subbase, base course, ballast, or pavement shall be laid until the subgrade has been checked and approved, and in no case shall subbase, base, surfacing, pavement, or ballast be placed on a muddy, spongy, or frozen subgrade.

END OF SECTION

SECTIONM 02811

SECTION 02811

UNDERGROUND SPRINKLER SYSTEMS

GENERAL

PERFORMANCE REQUIREMENTS

System shall operate with a minimum water pressure of 25psi at connection point and 15 psi at the last head in each zone.

SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Sprinkler System;

Detail drawings for valves, sprinkler heads, backflow preventers, automatic controllers, emitter heads, and water hammer arresters. Drawings shall include a complete list of equipment and materials, and manufacturer's descriptive and technical literature, performance charts and curves, catalog cuts, and installation instructions. Drawings shall also contain complete wiring and schematic diagrams and any other details required to demonstrate that the system has been coordinated and will function as a unit. Drawings shall show proposed system layout, type and number of heads and emitters, zone valves, drain pockets, backflow devices, controllers, and mounting details of controllers. As-built Drawings which provide current factual information showing locations of mains, heads, valves, and controllers including deviations from and amendments to the drawings and changes in the work shall be included.

SD-03 Product Data

Framed Instructions;

Labels, signs, and templates of operating instructions that are required to be mounted or installed on or near the product for normal, safe operation.

Field Training;

Information describing training to be provided, training aids to be used, samples of training materials to be provided, and schedules and notification of training.

Sprinkler System;

Detailed procedures defining the Contractor's provisions for accident prevention, health protection, and other safety precautions for the work to be done.

Spare Parts;

Spare parts data for each different item of material and equipment specified, after approval of the related submittals and not later than the start of the field tests. The data shall include a complete list of parts and supplies, with current unit prices and source of supply.

Design Analysis and Calculations;

Design analyses and pressure calculations verifying that system will provide the irrigation requirements.

SD-06 Test Reports

Field Tests;

Performance test reports, in booklet form, showing all field tests performed to adjust each component; and all field tests performed to prove compliance with the specified performance criteria, upon completion and testing of the installed system. Each test report shall indicate the final position of control valves.

SD-10 Operation and Maintenance Data

Sprinkler System;

Six copies of operation and six copies of maintenance manuals for the equipment furnished. One complete set prior to field testing and the remainder upon acceptance. Manuals shall be approved prior to the field training course. Operating manuals shall detail the step-by-step procedures required for system startup, operation, and shutdown. Operating manuals shall include the manufacturer's name, model number, parts list, and brief description of all equipment and their basic operating features. Maintenance manuals shall list routine maintenance procedures, possible breakdowns and repairs, and troubleshooting guides. Maintenance manuals shall include piping and equipment layout, simplified wiring and control diagrams of the system as installed, and system programming schedule.

DELIVERY AND STORAGE

All equipment delivered and placed in storage shall be protected from the weather; excessive humidity and temperature variation; direct sunlight (in the case of plastic or rubber materials); and dirt, dust, or other contaminants.

FIELD MEASUREMENTS

The Contractor shall verify all dimensions in the field and shall advise the Contracting Officer of any discrepancy before performing the work.

PRODUCTS

MATERIALS AND EQUIPMENT REQUIREMENTS

Standard Products

Materials and equipment shall be the standard products of a manufacturer who has produced similar systems which have performed well for a minimum period of 2 years prior to bid opening. Equipment shall be supported by a service organization that is, in the opinion of the Contracting Officer, reasonably convenient to the site.

Nameplates

Each item of equipment shall have the manufacturer's name, address, type or style, model or serial number, and catalog number on a plate secured to the item of equipment.

Extra Stock

The following extra stock shall be provided: Two sprinkler heads of each size and type, two valve keys for operating manual valves, two wrenches for removing and installing each type of head, two quick coupler keys and hose swivels, and four irrigation controller housing keys.

PIPING MATERIALS

Copper Tubing and Associated Fittings

Tubing shall conform to requirements of ASTM B 88, Type K. Fittings shall conform to ASME B16.22 and ASME B16.18, solder joint. Solder shall conform to ASTM B 32 95-5 tin-antimony. Flux shall conform to CID A-A-51145, Type I.

Red Brass Pipe and Associated Fittings

Pipe shall conform to requirements of ASTM B 43, regular. Fittings shall be Class 250, cast bronze threaded conforming to the requirements of ASME B16.15.

Galvanized Steel Pipe and Associated Fittings

Pipe shall conform to requirements of ASTM A 53, Schedule 40. Fittings shall be Class 150 conforming to requirements of ASME B16.3.

Polyvinyl Chloride (PVC) Pipe, Fittings and Solvent Cement

PVC Pipe

Pipe shall conform to the requirements of ASTM D 1785, PVC 1120 Schedule 40; or ASTM D 2241, PVC 1120 SDR 21, Class 200.

PVC Fittings

Solvent welded socket type fittings shall conform to requirements of ASTM D 2466, Schedule 40. Threaded type fittings shall conform to requirements of ASTM D 2464, Schedule 80.

Solvent Cement

Solvent cement shall conform to the requirements of ASTM D 2564.

Polyethylene (PE) Plastic Piping

Pipe shall conform to AWWA C901, outside diameter base with dimension ratio (DR) of 9.3 to provide 150 psi minimum pressure rating. Fittings shall conform to ASTM D 3261, DR of 9.3.

Dielectric Fittings

Dielectric fittings shall conform to ASTM F 441/F 441M, Schedule 80, CPVC threaded pipe nipples, 4 inch minimum length.

Emitter Hose and Distribution Tubing

Emitter hose and distribution tubing shall conform to ASTM D 2287, maximum inside diameter of 1/2 inch, minimum wall thickness of 90 mils, vinyl plastic extruded from non-rigid chloride, integrally algae-resistant, homogeneous throughout, smooth inside and outside, free from foreign materials, cracks, serrations, blisters and other effects. Slip fittings shall be provided.

SPRINKLER AND EMITTER HEADS (All heads shall be brass or bronze, no plastic)

Pop-Up Spray Heads

General Requirements

Pop-up spray heads lay flush with housing, then pop up when water pressure 20 psi is activated in system. The rising member supporting the nozzle shall be identical on full, half, third or quarter pattern sprinklers so that nozzles will be interchangeable. The sprinkler head shall be designed to be adjustable for coverage and flow. The nozzle shall be removable so head does not have to be removed for flushing or cleaning. Nozzle rises a minimum of 4 inches above the body. The body shall be constructed with a 1/2 inch female thread for installation in a fixed underground pipe system.

Shrubbery Sprinkler Heads

Sprinkler heads shall be conical spray with adjustable or non-adjustable coverage and designed for permanent aboveground mounting on riser or pop-ups at a height compatible with ground covers. Provide brass nozzles.

Rotary Pop-Up Sprinklers

Sprinklers coverage, distribution rate, pop-up, trajectory, and maximum height of spray shall be determined per Delivery Order. Construction shall be brass or bronze with filter screen, reducible watering radius, and choice of nozzles and have adjustable radius capabilities.

Bubbler Sprinkler Heads

Heads shall be multiple-spray bubbler with adjustable flow and designed for permanent aboveground mounting on risers.

Surface Connected Lawn Sprinkler Heads

Heads shall be an impulse type with or without sled, ring, or wheel base; multiple T Type; a rotary type with sled, spike or wheel base; or oscillating type with wheel or sled base.

Emitter Heads

Emitter heads shall be self-cleaning, pressure compensating diaphragm with one or six self-piercing barbed outlets; each capable of emitting from 1/4 to 2 gallons per hour flow. Emitter body shall be ultraviolet stabilized, algae, and heat resistant plastic construction.

VALVES

Gate Valves, Less than 3 Inches

Gate valves shall conform to the requirements of MSS SP-80, Type 1, Class 150.

Gate Valves, 3 Inches and Larger

Gate valves shall conform to the requirements of AWWA C509 and have encapsulated resilient wedge, parallel seats, non-rising stems, and open by counterclockwise turning. End connections shall be flanged. Interior construction of valves shall be bronze including stem containing a maximum 2 percent aluminum and maximum 16 percent zinc.

Angle Valves, Less Than 2-1/2 Inches

Angle valves shall conform to the requirements of MSS SP-80, Type 3, Class 150.

Angle Valves, 2-1/2 Inches and Larger

Angle valves shall conform to the requirements of MSS SP-85, Type II, Class 250.

Quick Coupling Valves

Quick coupling valves shall have brass parts and shall be two-piece unit consisting of a coupler water seal valve assembly and a removable upper body to allow spring and key track to be serviced without shutdown of main. Lids shall be lockable vinyl with spring for positive closure on key removal.

Remote Control Valves, Electrical

Remote control valves shall be solenoid actuated globe valves of 3/4 to 3 inch size, suitable for 24 volts, 60 cycle, and designed to provide for shut-off in event of power failure. Valve shall be cast bronze or brass or plastic housing suitable for service at 150 psi operating pressure with external flow control adjustment for shut-off capability, external plug at diaphragm chamber to enable manual operation, filter in control chamber to prevent valve body clogging with debris, durable diaphragm, and accessibility to internal parts without removing valve from system.

Drain Valves

Manual Valves

Manual valves shall conform to requirements of MSS SP-80, Type 3, Class 150 for sizes less than 2-1/2 inches and MSS SP-85, Type II, Class 250 for sizes 2-1/2 inches and larger.

Automatic Valves

Automatic valves shall be brass or plastic, spring loaded ball drip type, 150 pounds and threaded ends, designed to close at 6 foot pressure head with positive seal at 3 psi pressure or greater and be open to drain at less than 3 psi pressure.

Pressure Regulating Master Valve

Pressure regulating master valve shall be automatic mechanical self-cleaning, self-purging control system having an adjustable pressure setting operated by a solenoid on alternating current with 0.70 amperes at 24 volts. Valve shall close slowly and be free of chatter in each diaphragm position, have manual flow stem to adjust closing speed and internal flushing, and one inlet tapping capable of being installed as a straight pattern valve. Body shall be cast bronze or brass with removable brass seat serviceable from top without removing valve body from system. Valve shall operate at 150 psi working pressure and pilot range from 10 to 125 psi.

Backflow Preventers

Reduced pressure principle assemblies, double check valve assemblies, atmospheric (nonpressure) type vacuum breakers, and pressure type vacuum breakers shall be tested, approved, and listed in accordance with FCCCHR-01. Backflow preventers with intermediate atmospheric vent shall be in accordance with ASSE 1012. Reduced pressure principle backflow preventers shall be in accordance with ASSE 1013.

Pressure Type Vacuum Breaker

Vacuum breaker shall conform to the requirements of ASSE 1020 and shall be bronze or brass construction, with one or two check valves, vacuum relief, inlet and discharge shut-offs valves, field test cocks, and vacuum relief opening of greater diameter than unit.

Reduced Pressure Type Backflow Preventers

Backflow preventers shall be 150 pound flanged, bronze or brass mounted gate valve and strainer, 304 stainless steel or bronze, internal parts. Total pressure drop through complete assembly shall be a maximum of 10 psi at rated flow. Piping shall be red brass pipe and fittings. Strainers shall be bronze or brass construction with gasket caps. Units shall have 200-mesh stainless steel screen elements.

ACCESSORIES AND APPURTENANCES

Valve Keys for Manually Operated Valves

Valve keys shall be 1/2 inch diameter by 3 feet long, tee handles and keyed to fit valves.

Valve Boxes and Concrete Pads

Valve Boxes

Valve boxes shall be cast iron, plastic lockable, or precast concrete for each gate valve, manual control valve and remote control valve. Box sizes shall be adjustable for valve used. Word "IRRIGATION" shall be cast on cover. Shaft diameter of box shall be minimum 5-1/4 inches. Cast iron box shall have bituminous coating.

Concrete Pads

Concrete pads shall be precast or cast-in-place reinforced concrete construction for reduced pressure type backflow preventers.

Pressure Gauges

Pressure gauges shall conform to requirements of ASME B40.1, single style pressure gauge for water with 4-1/2 inchdial brass or aluminum case, bronze tube, gauge cock, pressure snubber, and siphon. Scale range shall be suitable for irrigation sprinkler systems.

Service Clamps

Service clamps shall be bronze flat, double strap, with neoprene gasket or "O"-ring seal.

Water Hammer Arresters

Water hammer arrester shall conform to the requirements of PDI WH 201; stainless steel construction with an encased and sealed bellows compression chamber.

Emitter Head Accessories

Strainer

Strainer shall be provided at inlet to each drip line. Strainer shall have stainless steel screen having equivalent of 140-mesh filtration capacity and incorporate flush valves within strainer to clean screen without disassembling unit.

Pressure Regulator

Pressure regulator shall be provided at each drip system if supply pressure exceeds 50 psi.

Riser Adapters

Riser adapters shall be provided with a rigid piping system.

Tubing Stakes

Tubing stakes shall be plastic coated steel, or other non-corrosive strong material to secure tubing.

Emitter Outlet Check Valve (Bug Cap)

Check valves shall be provided at end of each emitter outlet distribution line. Valves shall permit free flow of water with minimum restriction; prevent back siphoning, entry of insects, and contamination into outlet ports.

Access Sleeve

Access sleeve shall be provided at buried emitters placed in covered boxes. Lids of access sleeve shall be secured with removable lugs. Drip hose in both vertical and horizontal axis shall be secured.

Closure Caps

Closure caps shall be in accordance with manufacturer's recommendations.

AUTOMATIC CONTROLLERS, ELECTRICAL

Controller shall conform to the requirements of NEMA ICS 2 with 120-volt single phase service, operating with indicated stations, and grounded chassis. Enclosure shall conform to NEMA ICS 6 Type 3R, with locking hinged cover. Controller shall be programmed for various schedules by setting switches and dials equipped with the following features: A switch for each day of week for two schedules, allowing each station to be scheduled individually as to days of watering; a minute switch for each station with a positive increment range of 0 to 3 hours, set time within one percent; a switch allowing selected schedules to be repeated after each completion of initial watering schedule and allowing each operation to be scheduled throughout a 24-hour day; a circuit breaker for surge protection; and circuit for a 9-volt rechargeable NiCad battery.

ELECTRICAL WORK

Wiring and rigid conduit for electrical power shall be in accordance with NFPA 70, and Section 16375 ELECTRICAL DISTRIBUTION SYSTEM, UNDERGROUND.

CONCRETE MATERIALS

Concrete shall have a compressive strength of 3500 psi at 28 days as specified in Section 03307 CONCRETE.

EXECUTION

INSTALLATION

Sprinkler system shall be installed after site grading has been completed.

Trenching

Trench around roots shall be hand excavated to pipe grade when roots of 2 inches diameter or greater are encountered. Trench width shall be 4 inches minimum or 1-1/2 times diameter of pipe, whichever is wider. Backfill shall be hand tamped over excavation. When rock is encountered, trench shall be excavated 4 inches deeper and backfilled with silty sand (SM) or well-graded sand (SW) to pipe grade. Trenches shall be kept free of obstructions and debris that would damage pipe. Subsoil shall not be mixed with topsoil. Existing concrete walks, drives and other obstacles shall be bored at a depth conforming to bottom of adjacent trenches. Pipe sleeves for bored pipe shall be two pipe diameters larger than sprinkler pipe.

Piping System

Cover

Underground piping shall be installed to meet the minimum depth of backfill cover specified.

Clearances

Minimum horizontal clearances between lines shall be 4 inches for pipe 2 inches and less; 12 inches for 2-1/2 inches and larger. Minimum vertical clearances between lines shall be 1 inch.

Minimum Slope

Minimum slope shall be 6 inches per 100 feet in direction of drain valves.

Piping Installation

Polyvinyl Chloride (PVC) Pipe

a. Solvent-cemented joints shall conform to the requirements of ASTM D 2855.

b. Threaded joints shall be full cut with a maximum of three threads remaining exposed on pipe and nipples. Threaded joints shall be made tight without recourse to wicks or fillers, other than polytetrafluoroethylene thread tape.

c. Piping shall be joined to conform with requirements of ASTM D 2774 or ASTM D 2855, and pipe manufacturer's instructions. Pipe shall be installed in a serpentine (snaked) manner to allow for expansion and contraction in trench before backfilling. Pipes shall be installed at temperatures over 40 degrees F.

Soldered Copper Tubing

Pipe shall be reamed and burrs removed. Contact surfaces of joint shall be cleaned and polished. Flux shall be applied to male and female ends. End of tube shall be inserted into fittings full depth of socket. After soldering, a solder bead shall show continuously around entire joint circumference. Excess acid flux shall be removed from tubing and fittings.

Threaded Brass or Galvanized Steel Pipe

Prior to installation, pipe shall be reamed. Threads shall be cut in conformance with ASME B1.2. Pipe joint compound shall be applied to male end only.

Insulating Joints

Insulating and dielectric fittings shall be provided where pipes of dissimilar metal are joined and at connections to water supply mains as shown.

Installation of Valves

Manual Valves

Valves shall be installed in a valve box extending from grade to below valve body, with a minimum of 4 inches cover measured from finish grade to top of valve stem.

Automatic Valves

Valve shall be set plumb in a valve box extending from grade to below valve body, with minimum of 4 inch cover measured from grade to top of valve. Automatic valves shall be installed beside sprinkler heads with a valve box.

Drain Valves

Entire system shall be manually or automatically drainable. Low points of system shall be equipped with drain valve draining into an excavation containing 1 cubic foot gravel. Gravel shall be covered with building paper then backfilled with excavated material and 6 inches of topsoil.

Sprinklers and Quick Coupling Valves

Sprinklers and valves shall be installed plumb and level with terrain.

Installation of Drip Irrigation System

Emitter Hose

Emitter laterals shall be buried 6 inches deep. Connections shall be solvent welded in accordance with manufacturer's recommendation to standard weight Schedule 40 PVC fittings and bushings. Hose shall be installed in a serpentine manner. When cutting hose, shearing tool such as a pipe cutter, knife, or shears shall be used. Manufacturer's recommended tool and procedures when punching hose for emitters shall be followed.

Emitter Heads

Emitters shall be installed in a plastic emitter box. Emitter on a rigid PVC nipple shall be connected to PVC drip lateral with a tee or elbow. Tubing shall be attached to barbed fitting and daylight distribution tubing at root ball secured with stake, with bug cap at end of secured distribution tubing. After installing emitters and before operating system, end of drip lateral shall be opened and flushed clean. The number of emitters on a line shall not exceed manufacturer's recommendations for that hose or distribution tubing size and length.

Tubing Stakes

Main irrigation line shall be secured with stakes where line is aboveground. Stakes shall be spaced to ensure that hose does not shift location in presence of foot traffic, operations, gravity on slope installations, or environmental effects. Discharge of the emitter distribution tubing shall be staked to ensure that discharge point of emitter will be maintained at specified position in relation to plant material to be irrigated.

Backflow Preventers

Backflow preventer shall be installed in new connection to existing water distribution system, between connection and control valves. Backflow preventer shall be installed with concrete pads.

Pressure Type Vacuum Breaker

Pressure type vacuum breaker shall be installed 12 inches above highest head.

Reduced Pressure Type

Pipe lines shall be flushed prior to installing reduced pressure device; device shall be protected by a strainer located upstream. Device shall not be installed in pits or where any part of device could become submerged in standing water.

Control Wire and Conduit

Wires

Low voltage wires may be buried beside pipe in same trench. Rigid conduit shall be provided where wires run under paving. Wires shall be number tagged at key locations along main to facilitate service. One control circuit shall be provided for each zone and a circuit to control sprinkler system.

Loops

A 12 inch loop of wire shall be provided at each valve where controls are connected.

Expansion and Contraction

Multiple tubes or wires shall be bundled and taped together at 10 foot intervals with 12 inch loop for expansion and contraction.

Splices

Electrical splices shall be waterproof.

Automatic Controller

Exact field location of controllers shall be determined before installation. Coordinate the electrical service to these locations. Install in accordance with manufacturer's recommendations and NFPA 70.

Thrust Blocks (3 inch minimum line size)

Concrete shall be placed so that sides subject to thrust or load are against undisturbed earth, and valves and fittings are serviceable after concrete has set.

Backfill

Minimum Cover

Depth of cover shall be 24 inches; 36 inches for pipes under traffic loads, farm operations, and freezing temperatures; and 18 inches for low-voltage wires. Remainder of trench or pipe cover shall be filled to within 3 inches of top with excavated soil, and compact soil with plate hand-held compactors to same density as undisturbed adjacent soil.

Restoration

Top 3 inches shall be filled with topsoil and compacted with same density as surrounding soil. Lawns and plants shall be restored in accordance with Sections 02921 SEEDING, 02922 SODDING, and Section 02930 EXTERIOR PLANTING. Pavements shall be restored in accordance with applicable specification section.

Adjustment

After grading, seeding, and rolling of planted areas, sprinkler heads shall be adjusted flush with finished grade. Adjustments shall be made by providing new nipples of proper length or by use of heads having an approved device, integral with head, which will permit adjustment in height of head without changing piping.

Disinfection

Sprinkler system fed from a potable water system shall be disinfected upstream of backflow preventer.

Cleaning of Piping

Prior to the hydrostatic and operation tests, the interior of the pipe shall be flushed with clean water until pipe is free of all foreign materials.

FIELD TESTS

All instruments, equipment, facilities, and labor required to conduct the tests shall be provided by Contractor.

Hydrostatic Pressure Test

Piping shall be tested hydrostatically before backfilling and proved tight at a hydrostatic pressure of 150 psi without pumping for a period of one hour with an allowable pressure drop of 5 psi. If hydrostatic pressure cannot be held for a minimum of 4 hours, Contractor shall make adjustments or replacements and the tests repeated until satisfactory results are achieved and accepted by the Contracting Officer.

Operation Test

At conclusion of pressure test, sprinkler heads or emitter heads, quick coupling assemblies, and hose valves shall be installed and entire system tested for operation under normal operating pressure. Operation test consists of the system operating through at least one complete programmed cycle for all areas to be sprinkled.

FRAMED INSTRUCTIONS

Framed instructions containing wiring and control diagrams under glass or in laminated plastic shall be posted where directed. Condensed operating instructions, prepared in typed form, shall be framed as specified above and posted beside the diagrams. The framed instructions shall be posted before acceptance testing of the system. After as-built drawings are approved by Contracting Officer, controller charts and programming schedule shall be prepared. One chart for each controller shall be supplied. Chart shall be a reduced drawing of actual as-built system that will fit the maximum dimensions inside controller housing. Black line print for chart and a different pastel or transparent color shall indicate each station area of coverage. After chart is completed and approved for final acceptance, chart shall be sealed between two 20 mil pieces of clear plastic.

FIELD TRAINING

A field training course shall be provided for designated operating and maintenance staff members. Training shall be provided for a total period of 2 hours of normal working time and shall start after the system is functionally complete but prior to final acceptance tests. Field training shall cover all of the items contained in the operating and maintenance manuals.

CLEANUP

Upon completion of installation of system, all debris and surplus materials resulting from the work shall be removed.

END OF SECTION

SECTION 02921

SECTION 02921

SEEDING

GENERAL

SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.

SD-03 Product Data

Chemical Treatment Material;

Seed Establishment Period;

Calendar time period for the seed establishment period. When there is more than one seed establishment period, the boundaries of the seeded area covered for each period shall be described.

Application of Pesticide;

Pesticide treatment plan with sequence of treatment work with dates and times. The pesticide trade name, EPA registration number, chemical composition, formulation, concentration of original and diluted material, application rate of active ingredients, method of application, area treated, amount applied; and the name and state license number of the state certified applicator shall be included.

SOURCE INSPECTION

The source of delivered topsoil shall be subject to inspection.

DELIVERY, INSPECTION, STORAGE, AND HANDLING

Pesticides

Pesticide material shall be delivered to the site in the original, unopened containers bearing legible labels indicating the EPA registration number and the manufacturer's registered uses.

Inspection

Seed shall be inspected upon arrival at the job site for conformity to species and quality. Seed that is wet, moldy, or bears a test date five months or older, shall be rejected. Other materials shall be inspected for

compliance with specified requirements. The following shall be rejected: open soil amendment containers or wet soil amendments; topsoil that contains slag, cinders, stones, lumps of soil, sticks, roots, trash or other material over a minimum 1-1/2 inch diameter; and topsoil that contains viable plants and plant parts. Unacceptable materials shall be removed from the job site.

Storage

Materials shall be stored in designated areas. Seed, lime, and fertilizer shall be stored in cool, dry locations away from contaminants. Chemical treatment material shall be stored according to manufacturer's instructions and not with seeding operation materials.

Handling

Except for bulk deliveries, materials shall not be dropped or dumped from vehicles.

Time Limitation

Hydroseeding time limitation for holding seed in the slurry shall be a maximum 24 hours.

PRODUCTS

SEED

Seed Classification

State-approved seed of the latest season's crop shall be provided in original sealed packages bearing the producer's guaranteed analysis for percentages of mixture, purity, germination, hard seed, weed seed content, and inert material. Labels shall be in conformance with AMS-01 and applicable state seed laws.

Quality

Weed seed shall be a maximum 1 percent by weight of the total mixture.

Seed Mixing

The mixing of seed may be done by the seed supplier prior to delivery, or on site as directed.

Substitutions

Substitutions will not be allowed without written request and approval from the Contracting Officer.

TOPSOIL

Topsoil shall be as defined in ASTM D 5268. When available, the topsoil shall be the existing surface soil stripped and stockpiled onsite in accordance with Section 02300 EARTHWORK. When additional topsoil is required beyond the available topsoil from the stripping operation, topsoil shall be delivered and amended as recommended by the soil test for the seed specified. Topsoil shall be free from slag, cinders, stones, lumps of soil, sticks, roots, trash or other material over a minimum 1-1/2 inch diameter. Topsoil shall be free from viable plants and plant parts.

SOIL AMENDMENTS

Soil amendments shall consist of pH adjuster, fertilizer, organic material and soil conditioners meeting the following requirements. Vermiculite shall not be used.

pH Adjuster

The pH adjuster shall be an agricultural liming material in accordance with ASTM C 602. These materials may be burnt lime, hydrated lime, ground limestone, sulfur, or shells. The pH adjuster shall be used to create a favorable soil pH for the plant material specified.

Limestone

Limestone material shall contain a minimum calcium carbonate equivalent of 80 percent. Gradation: A minimum 95 percent shall pass through a No. 8 sieve and a minimum 55 percent shall pass through a No. 60 sieve. To raise soil pH, ground limestone shall be used.

Hydrated Lime

Hydrated lime shall contain a minimum calcium carbonate equivalent of 110 percent. Gradation: A minimum 100 percent shall pass through a No. 8 sieve and a minimum 97 percent shall pass through a No. 60 sieve.

Burnt Lime

Burnt lime shall contain a minimum calcium carbonate equivalent of 140 percent. Gradation: A minimum 95 percent shall pass through a No. 8 sieve and a minimum 35 percent shall pass through a No. 60 sieve.

Fertilizer

It shall be as recommended by the soil test. Fertilizer shall be controlled release commercial grade, free flowing, uniform in composition, and consist of a nitrogen-phosphorus-potassium ratio. The fertilizer shall be derived from sulphur coated urea, urea formaldehyde, plastic or polymer coated pills, or isobutylenediurea (IBDU). Fertilizer shall be balanced with the inclusion of trace minerals and micro-nutrients.

Nitrogen Carrier Fertilizer

It shall be as recommended by the soil test. Nitrogen carrier fertilizer shall be commercial grade, free flowing, and uniform in composition. The fertilizer may be a liquid nitrogen solution.

Organic Material

Organic material shall consist of either bonemeal, rotted manure, decomposed wood derivatives, recycled compost, or worm castings.

Bonemeal

Bonemeal shall be finely ground, steamed bone product containing from 2 to 4 percent nitrogen and 16 to 40 percent phosphoric acid.

Rotted Manure

Rotted manure shall be unleached horse, chicken or cattle manure containing a maximum 25 percent by volume of straw, sawdust, or other bedding materials. It shall contain no chemicals or ingredients harmful to plants.

The manure shall be heat treated to kill weed seeds and be free of stones, sticks, and soil.

Decomposed Wood Derivatives

Decomposed wood derivatives shall be ground bark, sawdust, yard trimmings, or other wood waste material that is free of stones, sticks, soil, and toxic substances harmful to plants, and is fully composted or stabilized with nitrogen.

Recycled Compost

Compost shall be a well decomposed, stable, weed free organic matter source. Compost shall be derived from food; agricultural or industrial residuals; biosolids (treated sewage sludge); yard trimmings; or source-separated or mixed solid waste. The compost shall possess no objectionable odors and shall not resemble the raw material from which it was derived. The material shall not contain substances toxic to plants. Gradation: The compost material shall pass through a 3/8 inch screen, possess a pH of 5.5 to 8.0, and have a moisture content between 35-55 percent by weight. The material shall not contain more than 1 percent by weight of man-made foreign matter. Compost shall be cleaned of plastic materials larger than 2 inches in length.

Worm Castings

Worm castings shall be screened from worms and food source, and shall be commercially packaged.

Soil Conditioner

Soil conditioner shall be sand, super absorbent polymers, calcined clay, or gypsum for use singly or in combination to meet the requirements of the soil test.

Sand

Sand shall be clean and free of toxic materials. Gradation: A minimum 95 percent by weight shall pass a No. 10 sieve and a minimum 10 percent by weight shall pass a No. 16 sieve. Greensand shall be balanced with the inclusion of trace minerals and nutrients.

Super Absorbent Polymers

To improve water retention in soils, super absorbent polymers shall be sized and applied according to the manufacturer's recommendations. Polymers shall be added as a soil amendment and be cross-linked polyacrylamide, with an absorption capacity of 250-400 times its weight. Polymers shall also be added to the seed and be a starch grafted polyacrylonitrile, with graphite added as a tacky sticker. It shall have an absorption capacity of 100 plus times its weight.

Calcined Clay

Calcined clay shall be granular particles produced from montmorillonite clay calcined to a minimum temperature of 1200 degrees F. Gradation: A minimum 90 percent shall pass a No. 8 sieve; a minimum 99 percent shall be retained on a No. 60 sieve; and a maximum 2 percent shall pass a No. 100 sieve. Bulk density: A maximum 40 pounds per cubic foot.

Gypsum

Gypsum shall be commercially packaged, free flowing, and a minimum 95 percent calcium sulfate by volume.

Expanded Shale, Clay, or Slate (ESCS)

Rotary kiln produced ESCS material shall be in conformance with ASTM D 5883.

MULCH

Mulch shall be free from weeds, mold, and other deleterious materials. Mulch materials shall be native to the region.

Straw

Straw shall be stalks from oats, wheat, rye, barley, or rice, furnished in air-dry condition and with a consistency for placing with commercial mulch-blowing equipment.

Hay

Hay shall be native hay, sudan-grass hay, broomsedge hay, or other herbaceous mowings, furnished in an air-dry condition suitable for placing with commercial mulch-blowing equipment.

Wood Cellulose Fiber

Wood cellulose fiber shall not contain any growth or germination-inhibiting factors and shall be dyed an appropriate color to facilitate placement during application. Composition on air-dry weight basis: 9 to 15 percent moisture, pH range from 4.5 to 6.0.

Paper Fiber

Paper fiber mulch shall be recycled news print that is shredded for the purpose of mulching seed.

PESTICIDE

Pesticide shall be insecticide, herbicide, fungicide, nematocide, rodenticide or miticide. For the purpose of this specification, a soil fumigant shall have the same requirements as a pesticide. The pesticide material shall be EPA registered and approved.

SURFACE EROSION CONTROL MATERIAL

Surface erosion control material shall conform to the following:

Surface Erosion Control Blanket

Blanket shall be machine produced mat of wood excelsior formed from a web of interlocking wood fibers; covered on one side with either knitted straw blanket-like mat construction; covered with biodegradable plastic mesh; or interwoven biodegradable thread, plastic netting, or twisted kraft paper cord netting.

Surface Erosion Control Fabric

Fabric shall be knitted construction of polypropylene yarn with uniform mesh openings 3/4 to 1 inch square with strips of biodegradable paper. Filler paper strips shall have a minimum life of 6 months.

Surface Erosion Control Net

Net shall be heavy, twisted jute mesh, weighing approximately 1.22 pounds per linear yard and 4 feet wide with mesh openings of approximately 1 inch square.

Surface Erosion Control Chemicals

Chemicals shall be high-polymer synthetic resin or cold-water emulsion of selected petroleum resins.

Hydrophilic Colloids

Hydrophilic colloids shall be physiologically harmless to plant and animal life without phytotoxic agents. Colloids shall be naturally occurring, silicate powder based, and shall form a water insoluble membrane after curing. Colloids shall resist mold growth.

Erosion Control Material Anchors

Erosion control anchors shall be as recommended by the manufacturer.

EXECUTION

INSTALLING SEED TIME AND CONDITIONS

Seeding Time

Seed shall be installed from 15 March to 15 June for spring establishment; from 15 June to Labor day for summer establishment; and from Labor Day to 15 October for fall establishment.

Seeding Conditions

Seeding operations shall be performed only during periods when beneficial results can be obtained. When drought, excessive moisture, or other unsatisfactory conditions prevail, the work shall be stopped when directed. When special conditions warrant a variance to the seeding operations, proposed alternate times shall be submitted for approval.

SITE PREPARATION

Finished Grade and Topsoil

The Contractor shall verify that finished grades are as indicated on drawings, and the placing of topsoil, smooth grading, and compaction requirements have been completed in accordance with Section 02300 EARTHWORK, prior to the commencement of the seeding operation.

Application of Soil Amendments

Applying Fertilizer

The fertilizer shall be applied as recommended by the soil test. Fertilizer shall be incorporated into the soil to a maximum 4 inch depth or may be incorporated as part of the tillage or hydroseeding operation.

Applying Soil Conditioner

The soil conditioner shall be as recommended by the soil test. The soil conditioner shall be spread uniformly over the soil a minimum 1 inch depth and thoroughly incorporated by tillage into the soil to a maximum 4 inch depth.

Applying Super Absorbent Polymers

Polymers shall be spread uniformly over the soil as recommended by the manufacturer and thoroughly incorporated by tillage into the soil to a maximum 4 inch depth.

Tillage

Soil on slopes up to a maximum 3-horizontal-to-1-vertical shall be tilled to a minimum 4 inch depth. On slopes between 3-horizontal-to-1-vertical and 1-horizontal-to-1 vertical, the soil shall be tilled to a minimum 2 inch depth by scarifying with heavy rakes, or other method. Rototillers shall be used where soil conditions and length of slope permit. On slopes 1-horizontal-to-1 vertical and steeper, no tillage is required. Drainage patterns shall be maintained as indicated on drawings. Areas compacted by construction operations shall be completely pulverized by tillage. Soil used for repair of surface erosion or grade deficiencies shall conform to topsoil

requirements. The pH adjuster, fertilizer, and soil conditioner may be applied during this procedure.

Prepared Surface

Preparation

The prepared surface shall be a maximum 1 inch below the adjoining grade of any surfaced area. New surfaces shall be blended to existing areas. The prepared surface shall be completed with a light raking to remove debris.

Lawn Area Debris

Debris and stones over a minimum 5/8 inch in any dimension shall be removed from the surface.

Protection

Areas with the prepared surface shall be protected from compaction or damage by vehicular or pedestrian traffic and surface erosion.

INSTALLATION

Prior to installing seed, any previously prepared surface compacted or damaged shall be reworked to meet the requirements of paragraph SITE PREPARATION. Seeding operations shall not take place when the wind velocity will prevent uniform seed distribution.

Installing Seed

Seeding method shall be by Broadcast Seeding or Hydroseeding. Seeding procedure shall ensure even coverage. Gravity feed applicators, which drop seed directly from a hopper onto the prepared soil, shall not be used because of the difficulty in achieving even coverage, unless otherwise approved. Absorbent polymer powder shall be mixed with the dry seed at the rate recommended by the manufacturer.

Broadcast Seeding

Seed shall be uniformly broadcast at the rate of 2 pounds per 1000 square feet using broadcast seeders. Half the total rate of seed application shall

be broadcast in 1 direction, with the remainder of the seed rate broadcast at 90 degrees from the first direction. Seed shall be covered a maximum 1/4 inch depth by disk harrow, steel mat drag, cultipacker, or other approved device.

Rolling

The entire area shall be firmed with a roller not exceeding 90 pounds per foot roller width. Slopes over a maximum 3-horizontal-to-1 vertical shall not be rolled. Areas seeded with seed drills equipped with rollers shall not be rolled.

Hydroseeding

Seed shall be mixed to ensure broadcast at the rate of 2 pounds per 1000 square feet. Seed and fertilizer shall be added to water and thoroughly mixed to meet the rates specified. The time period for the seed to be held in the slurry shall be a maximum 24 hours. Wood cellulose fiber mulch and tackifier, if used, shall be added at the rates recommended by the manufacturer after the seed, fertilizer, and water have been thoroughly mixed to produce a homogeneous slurry. Slurry shall be uniformly applied under pressure over the entire area. The hydroseeded area shall not be rolled.

Mulching

Hay or Straw Mulch

Hay or straw mulch shall be spread uniformly at the rate of 2 tons per acre. Mulch shall be spread by hand, blower-type mulch spreader, or other approved method. Mulching shall be started on the windward side of relatively flat areas or on the upper part of steep slopes, and continued uniformly until the area is covered. The mulch shall not be bunched or clumped. Sunlight shall not be completely excluded from penetrating to the ground surface. All areas installed with seed shall be mulched on the same day as the seeding. Mulch shall be anchored immediately following spreading.

Watering Seed

Watering shall be started immediately after completing the seeding of an area. Water shall be applied to supplement rainfall at a rate sufficient to ensure moist soil conditions to a minimum 1 inch depth. Run-off and puddling shall be prevented. Watering trucks shall not be driven over turf areas, unless otherwise directed. Watering of other adjacent areas or plant material shall be prevented.

SURFACE EROSION CONTROL

Surface Erosion Control Material

Where indicated or as directed, surface erosion control material shall be installed in accordance with manufacturer's instructions. Placement of the material shall be accomplished without damage to installed material or without deviation to finished grade.

Soil Amendments

When soil amendments have not been applied to the area, the quantity of 1/2 of the required soil amendments shall be applied and the area tilled in accordance with paragraph SITE PREPARATION. The area shall be watered in accordance with paragraph Watering Seed.

Remaining Soil Amendments

The remaining soil amendments shall be applied in accordance with the paragraph Tillage when the surface is prepared for installing seed.

APPLICATION OF PESTICIDE

When application of a pesticide becomes necessary to remove a pest or disease, a pesticide treatment plan shall be submitted and coordinated with the installation pest management program.

Technical Representative

The certified installation pest management coordinator shall be the technical representative, and shall be present at all meetings concerning treatment measures for pest or disease control. They may be present during treatment application.

Application

A state certified applicator shall apply required pesticides in accordance with EPA label restrictions and recommendations. Clothing and personal protective equipment shall be used as specified on the pesticide label. A closed system is recommended as it prevents the pesticide from coming into

contact with the applicator or other persons. Water for formulating shall only come from designated locations. Filling hoses shall be fitted with a backflow preventer meeting local plumbing codes or standards. Overflow shall be prevented during the filling operation. Prior to each day of use, the equipment used for applying pesticide shall be inspected for leaks, clogging, wear, or damage. Any repairs are to be performed immediately. A pesticide plan shall be submitted.

RESTORATION AND CLEAN UP

Restoration

Existing turf areas, pavements, and facilities that have been damaged from the seeding operation shall be restored to original condition at Contractor's expense.

Clean Up

Excess and waste material shall be removed from the seeded areas and shall be disposed offsite. Adjacent paved areas shall be cleaned.

PROTECTION OF INSTALLED AREAS

Immediately upon completion of the seeding operation in an area, the area shall be protected against traffic or other use by erecting barricades and providing signage as required, or as directed.

SEED ESTABLISHMENT PERIOD

Commencement

The seed establishment period to obtain a healthy stand of grass plants shall begin on the first day of work under this contract and shall end 3 months after the last day of the seeding operation. Written calendar time period shall be furnished for the seed establishment period. When there is more than 1 seed establishment period, the boundaries of the seeded area covered for each period shall be described.

Lawn Area

A satisfactory stand of grass plants from the seeding operation for a lawn area shall be a minimum 20 grass plants per square foot. Bare spots shall be a maximum 6 inches square. The total bare spots shall be a maximum 2 percent of the total seeded area.

Repair or Reinstall

Unsatisfactory stand of grass plants and mulch shall be repaired or reinstalled, and eroded areas shall be repaired in accordance with paragraph SITE PREPARATION.

END OF SECTION

SECTION 02930

SECTION 02930

EXTERIOR PLANTING

GENERAL

SOURCE INSPECTIONS

The nursery or source of plant material and the source of delivered topsoil shall be subject to inspection.

DELIVERY, INSPECTION, STORAGE, AND HANDLING

Delivered Topsoil

Prior to the delivery of any topsoil, the availability of topsoil shall be verified in paragraph TOPSOIL.

Soil Amendments

Soil amendments shall be delivered to the site in the original, unopened containers bearing the manufacturer's chemical analysis. In lieu of containers, soil amendments may be furnished in bulk. A chemical analysis shall be provided for bulk deliveries.

Pesticide Material

Pesticide material shall be delivered to the site in the original, unopened containers bearing legible labels indicating the Environmental Protection Agency (EPA) registration number and the manufacturer's registered uses.

Inspection

Plant material shall be well shaped, vigorous and healthy with a healthy, well branched root system, free from disease, harmful insects and insect eggs, sun-scald injury, disfigurement or abrasion. Plant material shall be checked for unauthorized substitution and to establish nursery grown status. Plant material showing desiccation, abrasion, sun-scald injury, disfigurement, or unauthorized substitution shall be rejected. The plant material shall exhibit typical form of branch to height ratio; and meet the caliper and height measurements specified. Plant material that measures less than specified, or has been poled, topped off or headed back, shall be rejected. Container-grown plant material shall show new fibrous roots and the root mass shall contain its shape when removed from the container. Plant material with broken or cracked balls; or broken containers shall be rejected. Bare-root plant material that is not dormant or is showing roots were pulled from the ground shall be rejected. Other materials shall be inspected for compliance with paragraph PRODUCTS. Open soil amendment containers or wet soil amendments shall be rejected. Topsoil that contains slag, cinders, stones, lumps of soil, sticks, roots, trash or other material larger than 1-1/2 inch diameter shall be rejected. Topsoil that contains viable plant material and plant parts shall be rejected. Unacceptable material shall be removed from the job site.

Storage

Plant Material Storage

Plant material not installed on the day of arrival at the site shall be stored and protected in designated areas. Plant material shall not be stored longer than 30 days. Plant material shall be protected from direct exposure to wind and sun. Bare-root plant material shall be heeled-in. All

plant material shall be kept in a moist condition by watering with a fine mist spray until installed.

Other Material Storage

Storage of other material shall be in designated areas. Soil amendments shall be stored in dry locations and away from contaminants. Chemical treatment material shall be stored according to manufacturer's instructions and not with planting operation material.

Handling

Plant material shall not be injured in handling. Cracking or breaking the earth ball of balled and burlapped plant material shall be avoided. Plant material shall not be handled by the trunk or stems. Materials shall not be dropped from vehicles.

WARRANTY

Furnished plant material shall have a warranty for plant growth to be in a vigorous growing condition for a minimum 12 month period. A minimum 12 month calendar time period for the warranty of plant growth shall be provided regardless of the contract time period. When plant material is determined to be unhealthy in accordance with paragraph PLANT ESTABLISHMENT PERIOD, it shall be replaced once under this warranty.

PRODUCTS

Substitutions

Substitutions will not be permitted without written request and approval from the Contracting Officer.

Quality

Well shaped, well grown, vigorous plant material having healthy and well branched root systems in accordance with ANLA Z60.1 shall be provided. Plant material shall be provided free from disease, harmful insects and insect eggs, sun-scald injury, disfigurement and abrasion. Plant material shall be free of shock or damage to branches, trunk, or root systems, which may occur from the digging and preparation for shipment, method of shipment, or shipment. Plant quality is determined by the growing conditions; method

of shipment to maintain health of the root system; and growth of the trunk and crown as follows.

Growing Conditions

Plant material shall be native to or well-suited to the growing conditions of the project site. Plant material shall be grown under climatic conditions similar to those at the project site.

Method of Shipment to Maintain Health of Root System

Balled and Burlapped (BB) Plant Material

Ball size and ratio shall be in accordance with ANLA Z60.1. The ball shall be of a diameter and depth to encompass enough fibrous and feeding root system necessary for the full recovery of the plant. The plant stem or trunk shall be centered in the ball. All roots shall be clean cut at the ball surface. Roots shall not be pulled from the ground. Before shipment the root ball shall be dipped in gels containing mycorrhizal fungi inoculum. The root ball shall be completely wrapped with burlap or other suitable material and securely laced with biodegradable twine.

Balled and Potted (Pot) Plant Material

Ball size and ratio shall be in accordance with ANLA Z60.1. The ball shall be of a diameter and depth to encompass enough fibrous and feeding root system necessary for the full recovery of the plant. Removal shall be done by hand digging or mechanical devices. The plant stem or trunk shall be centered in the ball. All roots shall be clean cut at the ball surface. Roots shall not be pulled from the ground. Before shipment the root ball shall be dipped in gels containing mycorrhizal fungi inoculum. Container shall be used to retain the ball unbroken. Container shall be rigid to hold ball shape and protect root mass during shipping.

Balled and Platform (BP) Plant Material

Ball size and ratio shall be in accordance with ANLA Z60.1. Plants shall be prepared as balled and burlapped plant material and securely fastened to wood platform for shipping.

Bare-Root (BR) Plant Material

Minimum root spread shall be in accordance with ANLA Z60.1. A well branched root system characteristic of the species specified shall be provided. Roots shall not be pulled from the ground. Bare-root plant material shall be inoculated with mycorrhizal fungi during germination in the nursery. Before shipment the root system shall be dipped in gels containing mycorrhizal fungi inoculum. Bare-root plant material shall be dormant. The root system shall be protected from drying out.

Container-Grown (C) Plant Material

Container size shall be in accordance with ANLA Z60.1. Plant material shall be grown in a container over a duration of time for new fibrous roots to have developed and for the root mass to retain its shape and hold together when removed from the container. Container-grown plant material shall be inoculated with mycorrhizal fungi during germination in the nursery. Before shipment the root system shall be dipped in gels containing mycorrhizal fungi inoculum. The container shall be sufficiently rigid to hold ball shape and protect root mass during shipping.

Growth of Trunk and Crown

Deciduous Shrubs

Deciduous shrubs shall have the height and number of primary stems recommended by ANLA Z60.1. Acceptable plant material shall be well shaped, with sufficient well-spaced side branches, and recognized by the trade as typical for the species grown in the region of the project.

Coniferous Evergreen Plant Material

Coniferous Evergreen plant material shall have the height-to-spread ratio recommended by ANLA Z60.1. The coniferous evergreen trees shall not be "poled" or the leader removed. Acceptable plant material shall be exceptionally heavy, well shaped and trimmed to form a symmetrical and tightly knit plant. The form of growth desired shall be as indicated.

Broadleaf Evergreen Plant Material

Broadleaf evergreen plant material shall have the height-to-spread ratio recommended by ANLA Z60.1. Acceptable plant material shall be well shaped and recognized by the trade as typical for the variety grown in the region of the project.

Plant Material Size

Plant material shall be furnished in sizes indicated. Plant material larger in size than specified may be provided at no additional cost to the Government.

SOIL AMENDMENTS

Soil amendments shall consist of pH adjuster, fertilizer, organic material and soil conditioners meeting the following requirements. Vermiculite is not recommended.

pH Adjuster

The pH adjuster shall be an agricultural liming material in accordance with ASTM C 602. These materials may be burnt lime, hydrated lime, ground limestone, or shells. The pH adjuster shall be used to create a favorable soil pH for the plant material specified.

Limestone

Limestone material shall contain a minimum calcium carbonate equivalent of 80 percent. Gradation: A minimum 95 percent shall pass through a No. 8 sieve and a minimum 55 percent shall pass through a No. 60 sieve. To raise soil pH, ground limestone shall be used.

Hydrated Lime

Hydrated lime shall contain a minimum calcium carbonate equivalent of 110 percent. Gradation: A minimum 100 percent shall pass through a No. 8 sieve and a minimum 97 percent shall pass through a No. 60 sieve.

Burnt Lime

Burnt lime shall contain a minimum calcium carbonate equivalent of 140 percent. Gradation: A minimum 95 percent shall pass through a No. 8 sieve and a minimum 35 percent shall pass through a No. 60 sieve.

Fertilizer

It shall be as recommended by the soil test. Fertilizer shall be controlled release commercial grade; free flowing, pellet or tablet form; uniform in composition; and consist of a nitrogen-phosphorus-potassium ratio. The fertilizer shall be derived from sulphur coated urea, urea formaldehyde, plastic or polymer coated pills, or isobutylenediurea (IBDU). Fertilizer shall be balanced with the inclusion of trace minerals and micro-nutrients.

Organic Material

Organic material shall consist of either bonemeal, peat, rotted manure, decomposed wood derivatives, recycled compost, or worm castings.

Bonemeal

Bonemeal shall be a finely ground, steamed bone product containing from 2 to 4 percent nitrogen and 16 to 40 percent phosphoric acid.

Rotted Manure

Rotted manure shall be unleached horse, chicken, or cattle manure containing a maximum 25 percent by volume of straw, sawdust, or other bedding materials. Manure shall contain no chemicals or ingredients harmful to plants. The manure shall be heat treated to kill weed seeds and shall be free of stones, sticks, and soil.

Decomposed Wood Derivatives

Decomposed wood derivatives shall be ground bark, sawdust, or other wood waste material free of stones, sticks, and toxic substances harmful to plants, and stabilized with nitrogen.

Recycled Compost

Compost shall be a well decomposed, stable, weed free organic matter source. It shall be derived from food, agricultural, or industrial residuals; biosolids (treated sewage sludge); yard trimmings; or source-separated or mixed solid waste. The compost shall possess no objectionable odors and shall not resemble the raw material from which it was derived. The material shall not contain substances toxic to plants. Gradation: The compost material shall pass through a 3/8 inch screen, possess a pH of 5.5 to 8.0, and have a moisture content between 35-55 percent by weight. The material shall not contain more than 1 percent or less by weight of man-made foreign matter. Compost shall be cleaned of plastic materials larger than 2 inches in length.

Worm Castings

Worm castings shall be screened from worms and food source and shall be commercially packaged.

Soil Conditioner

Soil conditioner shall be sand, super absorbent polymers, calcined clay, or gypsum for single use or in combination to meet topsoil requirements for the plant material specified.

Sand

Sand shall be clean and free of toxic materials. Gradation: A minimum 95 percent by weight shall pass a No. 10 sieve and a minimum 10 percent by weight shall pass a No. 16 sieve. Greensand shall be balanced with the inclusion of trace minerals and nutrients.

Super Absorbent Polymers

To improve water retention in soils, super absorbent polymers shall be sized according to manufacturer's recommendations. Polymers shall be added as a soil amendment and be cross-linked polyacrylamide with an absorption capacity of 250-400 times its weight.

Calcined Clay

Granular particles shall be produced from montmorillonite clay calcined to minimum temperature of 1200 degrees F. Gradation: A minimum 90 percent passing No. 8 sieve; a minimum 99 percent shall be retained on No. 60 sieve; and a maximum 2 percent shall pass a No. 100 sieve. Bulk density: A maximum 40 pounds per cubic foot.

Gypsum

Gypsum shall be commercially packaged, free flowing, and a minimum 95 percent calcium sulfate by volume.

Expanded Shale, Clay, or Slate (ESCS)

Rotary kiln produced ESCS material shall be in conformance with ASTM D 5883.

MULCH

Mulch shall be free from weeds, mold, and other deleterious materials. Mulch materials shall be native to the region. Rotted manure is not recommended to be used as a mulch because it would encourage surface rooting of the plant material and weeds.

Inorganic Mulch

When inorganic mulch is required for decorative purposes, it shall be provided in areas designated, and consist of materials as stated in the Delivery Order.

Organic Mulch

Organic mulch materials shall be native to the project site and consist of recycled mulch, shredded bark, wood chips, or ground bark.

Recycled Mulch

Recycled mulch may include compost, tree trimmings, or pine needles with a gradation that passes through a 2-1/2 x 2-1/2 inch screen. It shall be cleaned of all sticks a minimum 1 inch in diameter and plastic materials a minimum 3 inch length. The material shall be treated to retard the growth of mold and fungi. Other recycled mulch may include peanut shells, pecan shells or coco bean shells.

WOOD STAKING MATERIAL

Wood stakes shall be hardwood or fir; rough sawn; free from knots, rot, cross grain, or other defects that would impair their strength.

Bracing Stake

Wood bracing stakes shall be a minimum 2 x 2 inch square and a minimum 8 feet long with a point at one end. Stake shall be set without damaging rootball.

Wood Ground Stakes

Wood ground stakes shall be a minimum of 2 x 2 inch square and a minimum 3 feet long with a point at one end.

Deadmen

Wood deadmen shall be a minimum 4 x 4 x 36 inches long.

METAL STAKING AND GUYING MATERIAL

Metal shall be aluminum or steel consisting of recycled content made for holding plant material in place.

Bracing Stakes

Metal bracing stakes shall be a minimum 1 inch diameter and a minimum 8 feet long. Stake shall be set without damaging rootball.

Metal Ground Stakes

Metal ground stakes shall be a minimum 1/2 inch diameter and a minimum 3 feet long.

Earth Anchor

Metal earth anchors shall be a minimum 1/2 inch diameter and a minimum 2 feet long.

PLASTIC STAKING AND GUYING MATERIAL

Plastic shall consist of recycled plastic product made for holding plant material firmly in place. Plastic shall not be used for deadmen.

Plastic Bracing Stake

Plastic bracing stakes shall be a minimum 2 inch diameter and a minimum 8 feet long. Stake shall be set without damaging rootball.

Plastic Ground Stakes

Plastic ground stakes shall be a minimum 1 inch diameter and a minimum 3 feet long.

Plastic Guying Material

Plastic guying material shall be designed specifically for the purpose of firmly holding plant material in high wind velocities.

Chafing Guard

Plastic chafing guards shall be used to protect tree trunks and branches when metal is used as guying material. The material shall be the same color throughout the project site. Length shall be a minimum 1.5 times the circumference of the plant trunk at its base.

RUBBER GUYING MATERIAL

Rubber chafing guards, consisting of recycled material, shall be used to protect tree trunks and branches when metal guying material is applied. The material shall be the same color throughout the project. Length shall be a minimum 1.5 times the circumference of the plant trunk at its base.

FLAG

Plastic flag material shall be used on guying material. It shall be a minimum 6 inches long. Tape color shall be consistent and visually complimentary to the entire project area. The tape color shall meet pedestrian visual safety requirements for day and night.

TREE ROOT BARRIERS

Tree root barriers shall be metal or plastic consisting of recycled content. Barriers shall utilize vertical stabilizing members to encourage downward tree root growth. Barriers shall limit, by a minimum 90 percent, the occurrence of surface roots. Tree root barriers which are designed to be used as plant pit liners will be rejected.

MYCORRHIZAL FUNGI INOCULUM

Mycorrhizal fungi inoculum shall be composed of multiple-fungus inoculum as recommended by the manufacturer for the plant material specified.

PESTICIDE

Pesticide shall be insecticide, herbicide, fungicide, nematocide, rodenticide or miticide. For the purpose of this specification a soil fumigant shall have the same requirements as a pesticide. The pesticide material shall be EPA registered and approved.

EXECUTION

INSTALLING PLANT MATERIAL TIME AND CONDITIONS

Plant Material Time

Plant material shall be installed from 15 March to 15 October.

SITE PREPARATION

Finished Grade, Topsoil and Underground Utilities

The Contractor shall verify that finished grades are as indicated on drawings, and that the placing of topsoil, the smooth grading, and the compaction requirements have been completed in accordance with Section 02300 EARTHWORK, prior to the commencement of the planting operation. The location of underground utilities and facilities in the area of the planting operation shall be verified. Damage to underground utilities and facilities shall be repaired at the Contractor's expense.

Layout

Plant material locations and bed outlines shall be staked on the project site before any excavation is made. Plant material locations may be adjusted to meet field conditions.

Protecting Existing Vegetation

When there are established lawns in the planting area, the turf shall be covered and/or protected during planting operations. Existing trees, shrubs, and plant beds that are to be preserved shall be barricaded along the dripline to protect them during planting operations.

EXCAVATION

Obstructions Below Ground

When obstructions below ground affect the work, shop drawings showing proposed adjustments to plant material location, type of plant and planting method shall be submitted for approval.

Turf Removal

Where the planting operation occurs in an existing lawn area, the turf shall be removed from the excavation area to a depth that will ensure the removal of the entire root system.

Plant Pits

Plant pits for ball and burlapped or container plant material shall be dug to a depth equal to the height of the root ball as measured from the base of the ball to the base of the plant trunk. Plant pits for bare-root plant material shall be dug to a depth equal to the height of the root system. Plant pits shall be dug a minimum 50 percent wider than the ball or root system to allow for root expansion. The pit shall be constructed with sides sloping towards the base as a cone, to encourage well aerated soil to be available to the root system for favorable root growth. Cylindrical pits with vertical sides shall not be used.

INSTALLATION

Setting Plant Material

Plant material shall be set plumb and held in position until sufficient soil has been firmly placed around root system or ball. In relation to the surrounding grade, the plant material shall be set even with the grade at which it was grown.

Bare-Root Plant Material

Bare-root plant material shall be placed in water a minimum 30 minutes prior to setting.

Backfill Soil Mixture

The backfill soil mixture may be a mix of topsoil and soil amendments suitable for the plant material specified. When practical, the excavated soil from the plant pit that is not amended provides the best backfill and shall be used.

Adding Mycorrhizal Fungi Inoculum

Mycorrhizal fungi inoculum shall be added as recommended by the manufacturer for the plant material specified.

Backfill Procedure

Prior to backfilling, all metal, wood, synthetic products, or treated burlap devices shall be removed from the ball or root system avoiding damage to the root system. The backfill procedure shall remove air pockets from around the root system. Additional requirements are as follows.

Balled and Burlapped, and Balled and Platformed Plant Material

Biodegradable burlap and tying material shall be carefully opened and folded back from the top a minimum 1/3 depth from the top of the root ball. Backfill mixture shall be added to the plant pit in 6 inch layers with each layer tamped.

Bare-Root Plant Material

The root system shall be spread out and arranged in its natural position. Damaged roots shall be removed with a clean cut. The backfill soil mixture shall be carefully worked in amongst the roots and watered to form a soupy mixture. Air pockets shall be removed from around the root system, and root to soil contact shall be provided.

Container-Grown and Balled and Potted Plant Material

The plant material shall be carefully removed from containers that are not biodegradable. Prior to setting the plant in the pit, a maximum 1/4 depth of the root mass, measured from the bottom, shall be spread apart to promote new root growth. For plant material in biodegradable containers the container shall be split prior to setting the plant with container. Backfill mixture shall be added to the plant pit in 6 inch layers with each layer tamped.

Earth Berm

An earth berm, consisting of backfill soil mixture, shall be formed with a minimum 4 inch height around the edge of the plant pit to aid in water retention and to provide soil for settling adjustments.

Plant Bed

Plant material shall be set in plant beds according to the drawings. Backfill soil mixture shall be placed on previously scarified subsoil to completely surround the root balls, and shall be brought to a smooth and even surface, blending to existing areas. Earth berms shall be provided. Polymers shall be spread uniformly over the plant bed and in the planting pit as recommended by the manufacturer and thoroughly incorporated into the soil to a maximum 4 inch depth.

Watering

Plant pits and plant beds shall be watered immediately after backfilling, until completely saturated.

Staking and Guying

Staking will be required only when trees are unstable or will not remain set due to their size, shape, or exposure to high wind velocity.

One Bracing Stake

Trees 4 to 6 feet high shall be firmly anchored in place with one bracing stake. The bracing stake shall be placed on the side of the tree facing the prevailing wind. The bracing stake shall be driven vertically into firm ground and shall not injure the ball or root system. The tree shall be held firmly to the stake with a double strand of guying material. The guying

material shall be firmly anchored at a minimum 1/2 tree height and shall prevent girdling. A chafing guard shall be used when metal is the guying material.

Two Bracing Stakes

Trees from 6 to 8 feet height shall be firmly anchored in place with 2 bracing stakes placed on opposite sides. Bracing stakes shall be driven vertically into firm ground and shall not injure the ball or root system. The tree shall be held firmly between the stakes with a double strand of guying material. The guying material shall be firmly anchored at a minimum 1/2 tree height and shall prevent girdling. Chafing guards shall be used when metal is the guying material.

Three Ground Stakes

Trees over a minimum 8 feet height and less than a maximum 6 inch caliper shall be held firmly in place with 3 bracing or ground stakes spaced equidistantly around the tree. Ground stakes shall be avoided in areas to be mowed. Stakes shall be driven into firm ground outside the earth berm. The guying material shall be firmly anchored at a minimum 1/2 tree height and shall prevent girdling. For trees over maximum 3 inch diameter at breast height, turnbuckles shall be used on the guying material for tree straightening purposes. One turnbuckle shall be centered on each guy line. Chafing guards shall be used when metal is the guying material.

Deadmen or Earth Anchors

Trees over a minimum 6 inch caliper shall be held firmly in place with wood deadmen buried a minimum 3 feet in the ground or metal earth anchors. Multi-strand cable guying material shall be firmly anchored at a minimum 1/2 tree height and shall prevent girdling. Turnbuckles shall be used on the guying material for tree straightening purposes. One turnbuckle shall be centered on each guy line. Chafing guards shall be used.

Flags

A flag shall be securely fastened to each guy line equidistant between the tree and the stake, deadmen, or earth anchor. The flag shall be visible to pedestrians.

FINISHING

Plant Material

Prior to placing mulch, the installed area shall be uniformly edged to provide a clear division line between the planted area and the adjacent turf area, shaped as indicated. The installed area shall be raked and smoothed while maintaining the earth berms.

Placing Geotextile

Prior to placing mulch, geotextile shall be placed as indicated in accordance with the manufacturer's recommendations.

Placing Mulch

The placement of mulch shall occur a maximum 48 hours after planting. Mulch, used to reduce soil water loss, regulate soil temperature and prevent weed growth, shall be spread to cover the installed area with a minimum 4 inch uniform thickness. Mulch shall be kept out of the crowns of shrubs, ground cover, and vines and shall be kept off buildings, sidewalks and other facilities.

Pruning

Pruning shall be accomplished by trained and experienced personnel. The pruning of trees and palms shall be in accordance with ANSI A300. Only dead or broken material shall be pruned from installed plants. The typical growth habit of individual plant material shall be retained. Clean cuts shall be made flush with the parent trunk. Improper cuts, stubs, dead and broken branches shall be removed. "Headback" cuts at right angles to the line of growth will not be permitted. Trees shall not be poled or the leader removed, nor shall the leader be pruned or "topped off".

MAINTENANCE DURING PLANTING OPERATION

Installed plant material shall be maintained in a healthy growing condition. Maintenance operations shall begin immediately after each plant is installed to prevent desiccation and shall continue until the plant establishment period commences. Installed areas shall be kept free of weeds, grass, and other undesired vegetation. The maintenance includes maintaining the mulch, watering, and adjusting settling.

APPLICATION OF PESTICIDE

When application of a pesticide becomes necessary to remove a pest or disease, a pesticide treatment plan shall be submitted and coordinated with the installation pest management program.

Technical Representative

The certified installation pest management coordinator shall be the technical representative, and shall be present at all meetings concerning treatment measures for pest or disease control. They may be present during treatment application.

Application

A state certified applicator shall apply required pesticides in accordance with EPA label restrictions and recommendations. Clothing and personal protective equipment shall be used as specified on the pesticide label. A closed system is recommended as it prevents the pesticide from coming into contact with the applicator or other persons. Water for formulating shall only come from designated locations. Filling hoses shall be fitted with a backflow preventer meeting local plumbing codes or standards. Overflow shall be prevented during the filling operation. Prior to each day of use, the equipment used for applying pesticide shall be inspected for leaks, clogging, wear, or damage. Any repairs are to be performed immediately.

RESTORATION AND CLEAN UP

Restoration

Turf areas, pavements and facilities that have been damaged from the planting operation shall be restored to original condition at the Contractor's expense.

Clean Up

Excess and waste material shall be removed from the installed area and shall be disposed offsite. Adjacent paved areas shall be cleared.

PLANT ESTABLISHMENT PERIOD

Commencement

Upon completion of the last day of the planting operation, the plant establishment period for maintaining installed plant material in a healthy growing condition shall commence and shall be in effect for a minimum of 90 days or the remaining contract time period, whichever is longer, not to exceed 12 months. Written calendar time period shall be furnished for the plant establishment period. When there is more than one plant establishment period, the boundaries of the planted area covered for each period shall be described. The plant establishment period shall be coordinated with Sections 02921 SEEDING and 02922 SODDING. The plant establishment period shall be modified for inclement weather shut down periods, or for separate completion dates for areas.

Maintenance During Establishment Period

Maintenance of plant material shall include straightening plant material, straightening stakes; tightening guying material; correcting girdling; supplementing mulch; pruning dead or broken branch tips; maintaining plant material labels; watering; eradicating weeds, insects and disease; post-fertilization; and removing and replacing unhealthy plants.

Watering Plant Material

The plant material shall be watered as necessary to prevent desiccation and to maintain an adequate supply of moisture within the root zone. An adequate supply of moisture is estimated to be the equivalent of 1 inch absorbed water per week, delivered in the form of rain or augmented by watering. Run-off, puddling and wilting shall be prevented. Unless otherwise directed, watering trucks shall not be driven over turf areas. Watering of other adjacent areas or existing plant material shall be prevented.

Weeding

Grass and weeds in the installed areas shall not be allowed to reach a maximum 3 inches height before being completely removed, including the root system.

Pesticide Treatment

Treatment for disease or pest shall be in accordance with paragraph APPLICATION OF PESTICIDE.

Post-Fertilization

The plant material shall be topdressed at least once during the period of establishment with controlled release fertilizer, reference paragraph SOIL AMENDMENTS. Apply at the rate of 2 pounds per 100 square feet of plant pit or bed area. Dry fertilizer adhering to plants shall be flushed off. The application shall be timed prior to the advent of winter dormancy.

Plant Pit Settling

When settling occurs to the backfill soil mixture, additional backfill soil shall be added to the plant pit or plant bed until the backfill level is equal to the surrounding grade. Serious settling that affects the setting of the plant in relation to the maximum depth at which it was grown requires replanting in accordance with paragraph INSTALLATION. The earth berm shall be maintained.

Unhealthy Plant Material

A tree shall be considered unhealthy or dead when the main leader has died back, or up to a maximum 25 percent of the crown has died. A shrub shall be considered unhealthy or dead when up to a maximum 25 percent of the plant has died. This condition shall be determined by scraping on a branch an area 1/16 inch square, maximum, to determine if there is a green cambium layer below the bark. The Contractor shall determine the cause for unhealthy plant material and shall provide recommendations for replacement. Unhealthy or dead plant material shall be removed immediately and shall be replaced as soon as seasonal conditions permit.

Replacement Plant Material

Unless otherwise directed, plant material shall be provided for replacement in accordance with paragraph PLANT MATERIAL. Replacement plant material shall be installed in accordance with paragraph INSTALLATION, and recommendations in paragraph PLANT ESTABLISHMENT PERIOD. Plant material shall be replaced in accordance with paragraph WARRANTY. An extended plant establishment period shall not be required for replacement plant material.

Maintenance Instructions

Written instructions shall be furnished containing drawings and other necessary information for year-round care of the installed plant material; including, when and where maintenance should occur, and the procedures for plant material replacement.

END OF SECTION

SECTION 03307

SECTION 03307

CONCRETE

GENERAL

SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Air-Entraining Admixture;

DESIGN AND PERFORMANCE REQUIREMENTS

The Government will maintain the option to sample and test aggregates and concrete to determine compliance with the specifications. The Contractor shall provide facilities and labor as may be necessary to assist the Government in procurement of representative test samples. Samples of aggregates will be obtained at the point of batching in accordance with ASTM D 75. Concrete will be sampled in accordance with ASTM C 172. Slump and air content will be determined in accordance with ASTM C 143 and ASTM C 231, respectively, when cylinders are molded. Compression test specimens will be made, cured, and transported in accordance with ASTM C 31. Compression test specimens will be tested in accordance with ASTM C 39. Samples for strength

tests will be taken not less than once each shift in which concrete is produced. A minimum of three specimens will be made from each sample; two will be tested at 28 days for acceptance, and one will be tested at 7 days for information.

Strength

Acceptance test results will be the average strengths of two specimens tested at 28 days. The strength of the concrete will be considered satisfactory so long as the average of three consecutive acceptance test results equal or exceed the specified compressive strength, f'_c , and no individual acceptance test result falls below f'_c by more than 500 psi.

Concrete Mixture Proportions

Concrete mixture proportions shall be the responsibility of the Contractor. Mixture proportions shall include the dry weights of cementitious material(s); the nominal maximum size of the coarse aggregate; the specific gravities, absorptions, and saturated surface-dry weights of fine and coarse aggregates; the quantities, types, and names of admixtures; and quantity of water per cubic yard of concrete. All materials included in the mixture proportions shall be of the same type and from the same source as will be used on the project. Specified compressive strength f'_c shall be 3,500 psi at 28 days, or as stated on Delivery Order. The maximum nominal size coarse aggregate shall be 3/4 inch in accordance with ACI 318/318R. The air content shall be between 4.5 and 7.5 percent. The slump shall be between 2 and 5 inches.

PRODUCTS

MATERIALS

Cementitious Materials

Cementitious materials shall conform to the appropriate specifications listed:

Portland Cement

ASTM C 150, Type I, unless specified otherwise on Delivery Order.

Aggregates

Aggregates shall meet the quality and grading requirements of ASTM C 33 Class Designations 4M or better.

Admixtures

Admixtures to be used, when required or approved, shall comply with the appropriate specification listed. Chemical admixtures that have been in storage at the project site for longer than 6 months or that have been subjected to freezing shall be retested at the expense of the contractor at the request of the Contracting Officer and shall be rejected if test results are not satisfactory.

Air-Entraining Admixture

Air-entraining admixture shall meet the requirements of ASTM C 260.

Water

Water for mixing and curing shall be fresh, clean, potable, and free from injurious amounts of oil, acid, salt, or alkali, except that unpotable water may be used if it meets the requirements of COE CRD-C 400.

Reinforcing Steel

Reinforcing steel bar shall conform to the requirements of ASTM A 615/A 615M, Grade 60. Welded steel wire fabric shall conform to the requirements of ASTM A 185. Details of reinforcement not shown shall be in accordance with ACI 318/318R, Chapters 7 and 12.

Expansion Joint Filler Strips, Premolded

Expansion joint filler strips, premolded shall be sponge rubber conforming to ASTM D 1752, Type I.

Joint Sealants - Field Molded Sealants

Joint sealants - field molded sealants shall conform to ASTM C 920, Type M, Grade NS, Class 25, use NT for vertical joints and Type M, Grade P, Class 25, use T for horizontal joints. Bond-breaker material shall be polyethylene tape, coated paper, metal foil, or similar type materials. The backup material shall be compressible, nonshrink, nonreactive with the sealant, and

a nonabsorptive material such as extruded butyl or polychloroprene foam rubber. Immediately prior to installation of field-molded sealants, the joint shall be cleaned of all debris and further cleaned using water, chemical solvents, or other means as recommended by the sealant manufacturer or directed.

Formwork

The design and engineering of the formwork as well as its construction, shall be the responsibility of the Contractor.

Form Coatings

Forms for exposed surfaces shall be coated with a nonstaining form oil, which shall be applied shortly before concrete is placed.

EXECUTION

PREPARATION

General

Construction joints shall be prepared to expose coarse aggregate, and the surface shall be clean, damp, and free of laitance. Ramps and walkways, as necessary, shall be constructed to allow safe and expeditious access for concrete and workmen. Snow, ice, standing or flowing water, loose particles, debris, and foreign matter shall have been removed. Earth foundations shall be satisfactorily compacted. Spare vibrators shall be available. The entire preparation shall be accepted by the Government prior to placing.

Embedded Items

Reinforcement shall be secured in place; joints, anchors, and other embedded items shall have been positioned. Internal ties shall be arranged so that when the forms are removed all metal will be not less than 2 inches from concrete surfaces permanently exposed to view or exposed to water on the finished structures. Embedded items shall be free of oil and other foreign matters such as loose coatings or rust, paint, and scale. The embedding of wood in concrete will be permitted only when specifically authorized or directed. All equipment needed to place, consolidate, protect, and cure the concrete shall be at the placement site and in good operating condition.

Formwork Installation

Forms shall be properly aligned, adequately supported, and mortar-tight. The form surfaces shall be smooth and free from irregularities, dents, sags, or holes when used for permanently exposed faces. All exposed joints and edges shall be chamfered, unless otherwise indicated.

Vapor Barrier Installation

Vapor barriers shall be applied over gravel fill. Edges shall be lapped not less than 6 inches. All joints shall be sealed with pressure-sensitive adhesive not less than 2 inches wide. The vapor barrier shall be protected at all times to prevent injury or displacement prior to and during concrete placement.

Production of Concrete

Ready-Mixed Concrete

Ready-mixed concrete shall conform to ASTM C 94 except as otherwise specified.

Concrete Made by Volumetric Batching and Continuous Mixing

Concrete made by volumetric batching and continuous mixing shall conform to ASTM C 685.

Batching and Mixing Equipment

The contractor shall have the option of using an on-site batching and mixing facility. The facility shall provide sufficient batching and mixing equipment capacity to prevent cold joints. The method of measuring materials, batching operation, and mixer shall be submitted for review.

Waterstops

Waterstops shall be installed and spliced as directed by the manufacturer.

CONVEYING AND PLACING CONCRETE

Conveying and placing concrete shall conform to the following requirements.

General

Concrete placement shall not be permitted when weather conditions prevent proper placement and consolidation without approval. When concrete is mixed and/or transported by a truck mixer, the concrete shall be delivered to the site of the work and discharge shall be completed within 1-1/2 hours or 45 minutes when the placing temperature is 85 degrees F or greater unless a retarding admixture is used. Concrete shall be conveyed from the mixer to the forms as rapidly as practicable by methods which prevent segregation or loss of ingredients. Concrete shall be in place and consolidated within 15 minutes after discharge from the mixer. Concrete shall be deposited as close as possible to its final position in the forms and be so regulated that it may be effectively consolidated in horizontal layers 18 inches or less in thickness with a minimum of lateral movement. The placement shall be carried on at such a rate that the formation of cold joints will be prevented.

Consolidation

Each layer of concrete shall be consolidated by rodding, spading, or internal vibrating equipment. Internal vibration shall be systematically accomplished by inserting the vibrator through the fresh concrete in the layer below at a uniform spacing over the entire area of placement. The distance between insertions shall be approximately 1.5 times the radius of action of the vibrator and overlay the adjacent, just-vibrated area by a few inches. The vibrator shall penetrate rapidly to the bottom of the layer and at least 6 inches into the layer below, if such a layer exists. It shall be held stationary until the concrete is consolidated and then withdrawn slowly at the rate of about 3 inches per second.

Cold-Weather Requirements

No concrete placement shall be made when the ambient temperature is below 35 degrees F or if the ambient temperature is below 40 degrees F and falling. Suitable covering and other means as approved shall be provided for maintaining the concrete at a temperature of at least 50 degrees F for not less than 72 hours after placing and at a temperature above freezing for the remainder of the curing period. Salt, chemicals, or other foreign materials shall not be mixed with the concrete to prevent freezing. Any concrete damaged by freezing shall be removed and replaced at the expense of the contractor.

Hot-Weather Requirements

When the rate of evaporation of surface moisture, as determined by use of Figure 1 of ACI 308, is expected to exceed 0.2 pound per square foot per

hour, provisions for windbreaks, shading, fog spraying, or covering with a light-colored material shall be made in advance of placement, and such protective measures shall be taken as quickly as finishing operations will allow.

FORM REMOVAL

Forms shall not be removed before the expiration of 24 hours after concrete placement except where otherwise specifically authorized. Supporting forms and shoring shall not be removed until the concrete has cured for at least 5 days. When conditions on the work are such as to justify the requirement, forms will be required to remain in place for longer periods.

FINISHING

General

No finishing or repair will be done when either the concrete or the ambient temperature is below 50 degrees F.

Finishing Formed Surfaces

All fins and loose materials shall be removed, and surface defects including tie holes shall be filled. All honeycomb areas and other defects shall be repaired. All unsound concrete shall be removed from areas to be repaired. Surface defects greater than 1/2 inch in diameter and holes left by removal of tie rods in all surfaces not to receive additional concrete shall be reamed or chipped and filled with dry-pack mortar. The prepared area shall be brush-coated with an approved epoxy resin or latex bonding compound or with a neat cement grout after dampening and filled with mortar or concrete. The cement used in mortar or concrete for repairs to all surfaces permanently exposed to view shall be a blend of portland cement and white cement so that the final color when cured will be the same as adjacent concrete.

Finishing Unformed Surfaces

All unformed surfaces that are not to be covered by additional concrete or backfill shall be float finished to elevations shown, unless otherwise specified. Surfaces to receive additional concrete or backfill shall be brought to the elevations shown and left as a true and regular surface. Exterior surfaces shall be sloped for drainage unless otherwise shown. Joints shall be carefully made with a jointing tool. Unformed surfaces shall be finished to a tolerance of 3/8 inch for a float finish and 5/16 inch for a trowel finish as determined by a 10 foot straightedge placed on

surfaces shown on the plans to be level or having a constant slope. Finishing shall not be performed while there is excess moisture or bleeding water on the surface. No water or cement shall be added to the surface during finishing.

Float Finish

Surfaces to be float finished shall be screeded and darbied or bullfloated to eliminate the ridges and to fill in the voids left by the screed. In addition, the darby or bullfloat shall fill all surface voids and only slightly embed the coarse aggregate below the surface of the fresh concrete. When the water sheen disappears and the concrete will support a person's weight without deep imprint, floating should be completed. Floating should embed large aggregates just beneath the surface, remove slight imperfections, humps, and voids to produce a plane surface, compact the concrete, and consolidate mortar at the surface.

Trowel Finish

A trowel finish shall be applied where indicated. Trowelling shall be done immediately following floating to provide a smooth, even, dense finish free from blemishes including trowel marks. Finished surfaces shall be protected from damage during the construction period.

Broom Finish

A broom finish shall be applied where indicated. The concrete shall be screeded and floated to required finish plane with no coarse aggregate visible. After surface moisture disappears, the surface shall be broomed or brushed with a broom or fiber bristle brush in a direction transverse to that of the main traffic or as directed.

Expansion and Contraction Joints

Expansion and contraction joints shall be made in accordance with the details shown or as otherwise specified. Provide 1/2 inch thick transverse expansion joints where new work abuts an existing concrete. Expansion joints shall be provided at a maximum spacing of 30 feet on center in sidewalks and at a maximum spacing of 25 feet in slabs, unless otherwise indicated. Contraction joints shall be provided at a maximum spacing of 6 linear feet in sidewalks and at a maximum spacing of 15 feet in slabs, unless otherwise indicated. Contraction joints shall be cut at a minimum of 1 inch deep with a jointing tool after the surface has been finished.

CURING AND PROTECTION

Beginning immediately after placement and continuing for at least 7 days, all concrete shall be cured and protected from premature drying, extremes in temperature, rapid temperature change, freezing, mechanical damage, and exposure to rain or flowing water. All materials and equipment needed for adequate curing and protection shall be available and at the site of the placement prior to the start of concrete placement. Preservation of moisture for concrete surfaces not in contact with forms shall be accomplished by one of the following methods:

- a. Continuous sprinkling or ponding.
- b. Application of absorptive mats or fabrics kept continuously wet.
- c. Application of sand kept continuously wet.
- d. Application of impervious sheet material conforming to ASTM C 171.
- e. Application of membrane-forming curing compound conforming to ASTM C 309, Type 1-D, on surfaces permanently exposed to view and Type 2 on other surfaces shall be accomplished in accordance with manufacturer's instructions.

The preservation of moisture for concrete surfaces placed against wooden forms shall be accomplished by keeping the forms continuously wet for 7 days. If forms are removed prior to end of the required curing period, other curing methods shall be used for the balance of the curing period. During the period of protection removal, the temperature of the air in contact with the concrete shall not be allowed to drop more than 25 degrees F within a 24 hour period.

TESTS AND INSPECTIONS

General

The individuals who sample and test concrete as required in this specification shall have demonstrated a knowledge and ability to perform the necessary test procedures equivalent to the ACI minimum guidelines for certification of Concrete Field Testing Technicians, Grade I.

Inspection Details and Frequency of Testing

Preparations for Placing

Foundation or construction joints, forms, and embedded items shall be inspected in sufficient time prior to each concrete placement by the Contractor to certify that it is ready to receive concrete.

Air Content

Air content shall be checked at least once during each shift that concrete is placed. Samples shall be obtained in accordance with ASTM C 172 and tested in accordance with ASTM C 231.

Slump

Slump shall be checked once during each shift that concrete is produced. Samples shall be obtained in accordance with ASTM C 172 and tested in accordance with ASTM C 143.

Consolidation and Protection

The Contractor shall ensure that the concrete is properly consolidated, finished, protected, and cured.

Action Required

Placing

The placing foreman shall not permit placing to begin until he has verified that an adequate number of acceptable vibrators, which are in working order and have competent operators, are available. Placing shall not be continued if any pile is inadequately consolidated.

Air Content

Whenever a test result is outside the specification limits, the concrete shall not be delivered to the forms and an adjustment shall be made to the dosage of the air-entrainment admixture.

Slump

Whenever a test result is outside the specification limits, the concrete shall not be delivered to the forms and an adjustment should be made in the batch weights of water and fine aggregate. The adjustments are to be made so that the water-cement ratio does not exceed that specified in the submitted concrete mixture proportion.

Reports

The results of all tests and inspections conducted at the project site shall be reported informally at the end of each shift and in writing weekly and shall be delivered within 3 days after the end of each weekly reporting period. See Section 01451 CONTRACTOR QUALITY CONTROL.

END OF SECTION

WAGE RATE

GENERAL DECISION ID030001 06/13/2003 ID1

Date: June 13, 2003

General Decision Number ID030001

Superseded General Decision No. ID020001

State: Idaho

Construction Type:

HEAVY

HIGHWAY

County(ies):

STATEWIDE

HEAVY AND HIGHWAY CONSTRUCTION PROJECTS

Modification Number
0Publication Date
06/13/2003

COUNTY(ies):

STATEWIDE

CARP0001D 06/01/2002

	Rates	Fringes
AREA 1:		
CARPENTERS	22.91	6.25
PILEDIVERS	23.17	6.25
MILLWRIGHTS	24.01	6.25
DIVERS	56.77	6.25
DIVERS TENDERS	27.00	6.25

CARP0808A 01/01/2003

	Rates	Fringes
AREA 2:		
ZONE 1:		
CARPENTERS	21.26	6.11
PILEDIVERS	21.43	6.11
MILLWRIGHTS AND MACHINE ERECTORS	21.55	6.11
DIVERS	52.61	6.11
DIVERS TENDERS	21.43	6.11

Zone Differential (Add to Zone 1 rates):

Zone 2 - \$1.50

ELEC0073D 01/01/2003

	Rates	Fringes
KOOTENAI COUNTY		
ELECTRICIANS	24.07	3%+10.63
CABLE SPLICERS	24.47	3%+10.63

ELEC0077A 02/01/2003		
	Rates	Fringes
AREA 1:		
LINE CONSTRUCTION:		
CABLE SPLICERS	37.95	3.875%+7.45
LINEMEN, POLE SPRAYERS, HEAVY LINE EQUIPMENT MAN	33.88	3.875%+7.45
LINE EQUIPMENT MEN	29.14	3.875%+5.70
POWDERMEN, JACKHAMMERMEN	25.41	3.875%+5.70
GROUND MEN	23.72	3.875%+5.70
TREE TRIMMER	23.81	3.875%+5.70

ELEC0291B 06/01/2002		
	Rates	Fringes
ADAMS, ADA, BOISE, CANYON, ELMORE, GEM, OWYHEE, PAYETTE, VALLEY AND WASHINGTON COUNTIES		
ELECTRICIANS (including traffic signalization)	24.84	3%+6.59

ELEC0291C 03/01/2003		
	Rates	Fringes
AREA 2:		
CABLE SPLICER	31.73	4.75%+7.17
LINEMAN	28.75	4.75%+7.05
LINE EQUIPMENT OPERATOR	24.35	4.75%+6.87
GROUND MAN	17.77	4.75%+6.61

ENGI0370B 01/01/2003		
	Rates	Fringes
AREA 2: (Anyone working on HAZMAT jobs working with supplied air shall receive \$1.00 per hour above classification)		

THERE IS A HAZMAT CLASSIFICATION INCLUDED IN EACH GROUP

POWER EQUIPMENT OPERATORS:

ZONE 1:

GROUP 1	20.74	6.97
GROUP 2	20.90	6.97
GROUP 3	21.27	6.97
GROUP 4	21.58	6.97
GROUP 5	21.75	6.97
GROUP 6	21.93	6.97
GROUP 7	22.29	6.97
GROUP 8	22.52	6.97
GROUP 9	22.75	6.97
GROUP 10	23.00	6.97

**If a project is located in more than one zone the lower zone
rate shall apply**

Zone Differential (Add to Zone 1 rate): Zone 2 - \$1.50

**Zone 1: That area within the State of Idaho located within 30
miles on either side of I-84 from the Oregon-Idaho State Line on**

the West to the Intersection of I-84 and I-86 in Cassia County, then following I-86 to Pocatello, then following I-15 to Idaho Falls, then following State Highway #20 - 10 miles north to the intersection with Moody Road then following I-15 south from the city of Pocatello to a point 10 miles South of the Southern Boundary of Bannock County extended to the West.

Zone 2: The remaining area of that portion of the State of Idaho south of Parallel 46 (the Washington-Oregon State Line

extended eastward to Montana) that is not included in Zone 1 as described

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Brakeman; Crusher Plant Feeder (Mechanical); Deckhand; Grade Checker; Heater Tender; Land Plane; Pumpman

GROUP 2: Air Compressor; Assistant Refrigeration Plant Operator; Bell Boy; Bit Grinder Operator; Blower Operator (cement); Bolt Threader Machine Operator; Broom; Cement Hog; Concrete Mixer; Concrete Saw multiple cut; Discing - Harrowing or Mulching (regardless of motive power); Distributor Leverman; Drill Steel Threader Machine Operator; Fireman-all; Hoist-single drum; Hydraulic Monitor Operator-skid mounted; Oiler (single piece of equipment); Crusher Oiler; Pugmixer-Box Operator; Spray Curing Machine; Tractor-rubber tired farm type using attachments

GROUP 3: A-Frame Truck (hydra lift, Swedish Cranes, Ross Carrier, Hyster on construction jobs); Battery Tunnel Locomotive; Belt Finishing Machine; Cable Tenders (underground); Chip Spreader Machine (self-propelled); Hoist-2 or more drums or Tower Hoist; Hydralift-Fork lift & similar (when hoisting); Oilers (underground); Power Loader (bucket elevator conveyors); Rodman; Road Roller (regardless of motive power)

GROUP 4: Boring Machines (earth or rock); Quarrymaster-Joy-tractor mounted, Drills: Churn-Core-Calyx or Diamond; Front End & Overhead Loaders and similar machines-(up to and including 4 yds)(rubber-tired); Grout Pump; Hydra-Hammer; Locomotive Engineer; Longitudinal Float Machine; Mobile mixer; Spreader Machine; Tractor-rubber tired-using Backhoe, Transverse Finishing Machine; Trenching Machines; Waggoner Compactor and similar; Asphalt Spreaders

GROUP 5: Concrete Plant Operator; Concrete Road Paver (dual); Elevating Grader Operator; Euclid Elevating Loader; Generator Plant Operator-Mechanic (diesel electric); Post Hole Auger or Punch Operator; Power Shovels, Backhoes and Draglines (under 3/4 yd); Pumpcrete; Refrigeration Plant Operator(1000 tons and under; Road Roller(finishing high type pavement); Service Equipment Oiler; Skidder-rubber tired; Sub Grader; Multiple Station Beltline Operator; Screed Operator

GROUP 6: Asphalt Pavers-self propelled; Asphalt Plant Operator; Blade Operator (motor patrol); Concrete Slip Form Paver; Cranes - up to and including 50 ton; Crusher Plant Operator; Derrick Operator; Drilling Equipment (bit under 8 inches) - Robbins Reverse Circulation and similar; Front End and Overhead Loaders and similar machines-over 4 yds to and including 7 yds; Koehring Scooper; Heavy Duty Mechanic or Welder; Mucking Machine (underground); Multi-batch Concrete Plant Operator; Piledriver Engineer; Power Shovels, Backhoes and Draglines (3/4 yd to and including 3 1/2 yds), Tractor-crawler type-including all attachments; Refrigeration Plant Operator

(over 1,000 tons); Trimmer Machine Operator; Concrete Pump Boom Truck; All Scrapers up to and including 40 yards

GROUP 7: Cableway Operator; Continuous Excavator (Barber Greene WL-50); Cranes-over 50 tons; Dredges; Drilling Equipment (bit 8 inches and over)-Robbins Reverse Circulation & similar; Fine Grader-CMI or equivalent; Front End & Overhead Loaders & similar machines-(over 7 yards); Power Shovels & Draglines over 3 1/2 yards; Quad type Tractors with all attachments; all Scrapers, pulling wagons, belly dumps and attachments (over 40 yards to and including 60 yards); Multiple Scraper Units; Tower Crane Operator

GROUP 8: Scrapers - Euclid & similar, pulling wagons, belly dumps and attachments, over 60 yards to and including 80 yards

GROUP 9: Scrapers - Euclid and similar, pulling wagons, belly dumps and attachments, over 80 yards to and including 100 yards

GROUP 10: Scrapers - Euclids and similar, pulling wagons, belly dumps and attachments, over 100 yards

BOOM PAY: All Cranes and Concrete Pump Boom Trucks

100 ft to 150 ft	\$.15 over scale
150 ft to 200 ft	\$.30 over scale
Over 200 ft	\$.45 over scale

NOTE: In computing the length of the boom on Tower Cranes, they shall be measured from the base of the tower to the point of the boom.

ENGI0370D 06/01/2002

	Rates	Fringes
AREA 1: (Anyone working on HAZMAT jobs working with supplied air shall receive \$1.00 per hour above classification)		

POWER EQUIPMENT OPERATORS:

ZONE 1:

GROUP 1A	20.94	6.52
GROUP 1	21.49	6.52
GROUP 2	21.81	6.52
GROUP 3	22.42	6.52
GROUP 4	22.58	6.52
GROUP 5	22.74	6.52
GROUP 6	23.02	6.52
GROUP 7	23.29	6.52
GROUP 8	24.39	6.52

Zone Differential (Add to Zone 1 rate): Zone 2- \$2.00

BASE POINTS: Spokane, Moses Lake, Pasco, Washington; Lewiston, Idaho

Zone 1: Within 45 radius miles from the main post office
Zone 2: Outside 45 radius miles from the main post office

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1A: Boat Operator; Crush Feeder; Oiler; Steam Cleaner

GROUP 1: Bit Grinders; Bolt Threading Machine; Compressors (under 2000 CFM, gas, diesel, or electric power); Deck Hand; Drillers Helper (assist driller in making drill rod connections, service drill engine and air compressor, repair drill rig and drill tools, drive drill support truck to and on the job site, remove drill cuttings from around bore hole and inspect drill rig while in operation); Fireman & Heat Tender; Grade Checker; Hydro-seeder, Mulcher, Nozzleman; Oiler Driver, & Cable Tender, Mucking Machine; Pumpman; Rollers, all types on subgrade, including seal and chip coatings (farm type, Case, John Deere & similar, or Compacting Vibrator), except when pulled by Dozer with operable blade; Welding Machine

GROUP 2: A-frame Truck (single drum); Assistant Refrigeration Plant (under 1000 ton); Assistant Plant Operator, Fireman or Pugmiser (asphalt); Bagley or Stationary Scraper; Belt Finishing Machine; Blower Operator (cement); Cement Hog; Compressor (2000 CFM or over, 2 or more, gas, diesel or electric power); Concrete Saw (multiple cut); Distributor Leverman; Ditch Witch or similar; Elevator Hoisting Materials; Dope Pots (power agitated); Fork Lift or Lumber Stacker, hydra-lift & similar; Gin Trucks (pipeline); Hoist, single drum; Loaders (bucket elevators and conveyors); Longitudinal Float; Mixer (portable-concrete); Pavement Breaker, Hydra-Hammer & similar; Power Broom; Railroad Ballast Regulation Operator (self-propelled); Railroad Power Tamping Operator (self-propelled); Railroad Tamping Jack Operator (self-propelled); Spray Curing Machine (concrete); Spreader Box (self-propelled); Straddle Buggy (Ross & similar on construction job only); Tractor (Farm type R/T with attachment, except Backhoe); Tugger Operator

GROUP 3: A-frame Truck (2 or more drums), Assistant Refrigeration Plant & Chiller Operator (over 1000 ton); Backfillers (Cleveland & similar); Batch Plant & Wet Mix Operator, single unit (concrete); Belt-Concrete Conveyors with power pack or similar; Belt Loader (Kocal or similar); Bending Machine; Bob Cat; Boring Machine (earth); Boring Machine (rock under 8" bit) (Quarry Master, Joy or similar); Bump Cutter (Wayne, Saginaw or similar); Canal Lining Machine (concrete); Chipper (without crane); Cleaning & Doping Machine (pipeline); Deck Engineer; Elevating Belt-type Loader (Euclid, Barber Green & similar); Elevating Grader-type Loader (Dumort, Adams or similar); Generator Plant Engineers (diesel or electric); Gunnite Combination Mixer & Compressor; Locomotive Engineer; Mixermobile; Mucking Machine; Posthole Auger or Punch; Pump (grout or jet); Soil Stabilizer (P & H or similar); Spreader Machine; Tractor (to D-6 or equivalent) and Traxcavator; Traverse Finish Machine; Turnhead Operator

GROUP 4: Concrete Pumps (squeeze-crete, flow-crete, pump-crete, Whitman & similar); Curb Extruder (asphalt or concrete); Drills (churn, core, calyx or diamond) (operates drilling machine, drive or transport drill rig to and on job site and weld well casing); Equipment Serviceman, Greaser & Oiler; Hoist (2 or more drums or Tower Hoist); Loaders (overhead & front-end, under 4 yds. R/T); Refrigeration Plant Engineer (under 1000 ton); Rubber-tired Skidders (R/T with or without attachments); Surface Heater & Planer Machine; Trenching Machines (under 7 ft. depth capacity); Turnhead (with re-screening); Vacuum Drill (reverse circulation drill under 8" bit)

GROUP 5: Backhoe (under 45,000 gw); Backhoe & Hoe Ram (under 3/4 yd.); Carrydeck & Boom Truck (under 25 tons); Cranes (25 tons & under), all attachments including clamshell, dragline; Derricks & Stifflegs (under 65 tons); Drilling Equipment (8" bit &

over)(Robbins, reverse circulation & similar)(operates drilling machine, drive or transport drill rig to and on job site and weld well casing); Hoe Ram; Piledriving Engineers; Paving (dual drum); Railroad Track Liner Operator (self-propelled); Refrigeration Plant Engineer (1000 tons & over); Signaller (Whirleys, Highline Hammerheads or similar)

GROUP 6: Asphalt Plant Operator; Automatic Subgrader (Ditches & Trimmers) (Autograde, ABC, R. A. Hansen & similar on grade wire); Backhoes (45,000 gw and over to 110,000 gw); Backhoes & Hoe Ram (3/4 yd. to 3 yd.); Batch Plant (over 4 units); Batch & Wet Mix Operator (multiple units, 2 & incl. 4); Blade Operator (motor Patrol & Attachments, Athey & Huber); Boom Cats (side); Cableway Controller (dispatcher); Clamshell Operator (under 3 yds.); Compactor (self-propelled with blade); Concrete Pump Boom Truck; Concrete Slip Form Paver; Cranes (over 25 tons, including 45 tons), all attachments including clamshell, dragline; Crusher, Grizzle and Screening Plant Operator; Dozer, 834 R/T & similar; Draglines (under 3 yds.); Drill Doctor; H. D. Mechanic; H. D. Welder; Loader Operator (front-end & overhead, 4 yds. incl. 8 yds.); Multiple Dozer Units with single blade; Paving Machine (asphalt and concrete); Quad-Track or similar equipment; Roller (finishing asphalt pavement); Roto Mill (pavement grinder); Scrapers, all, Rubber-tired; Screed Operator; Shovel (under 3 yds.); Tractors (D-6 & equivalent & over); Trenching Machines (7 ft. depth & over); Tug Boat Operator; Vector Guzzler, Super Sucker

GROUP 7: Backhoe (over 110,000 gw); Backhoes & Hoe Ram (3 yds. & over); Blade (finish & bluetop) Automatic, CMI, ABC, Finish Athey & Huber & similar when used as automatic; Cableway Operators; Concrete Cleaning/Decontamination Machine Operator; Cranes (over 45 tons to but not including 85 tons), all attachments including clamshell, dragline; Derricks & Stifflegs (65 tons & over); Elevating Belt (Holland type); Heavy Equipment Robotics Operator; Loader (360 degrees revolving Koehring Scooper or similar); Loaders (overhead & front-end, over 8 yds. to 10 yds.); Rubber-tired Scrapers (multiple engine with three or more scrapers); Shovels (3 yds. & over); Ultra High Pressure Waterjet Cutting Tool System Operator (30,000 psi); Vacuum Blasting Machine Operator; Whirleys & Hammerheads, ALL

GROUP 8: Cranes (85 tons and over, and all climbing, overhead, rail and tower); Loaders (overhead and front-end, 10 yards and over); Helicopter Pilot

BOOM PAY: (All Cranes, including Tower)
 180' to 250' \$.30 over scale
 Over 250' \$.60 over scale

NOTE: In computing the length of the boom on Tower Cranes, they shall be measured from the base of the Tower to the point of the boom

IRON0014A 02/01/2003

	Rates	Fringes
ADAMS (REMAINDER), BENEWAH, BONNER, CLEARWATER, IDAHO, KOOTENAI, LATAH, LEMHI (NW CORNER), NEZ PERCE, SHOSHONE, VALLEY (NW 1/3) AND WASHINGTON (NW 1/2) COUNTIES		

IRONWORKERS	25.52	11.80
-------------	-------	-------

IRON0732A 06/01/2002

Rates Fringes

ADA, ADAMS (E. CORNER), BANNOCK, BEAR LAKE, BINGHAM, BLAINE,
BOISE, BUTTE, BONNEVILLE, CAMAS, CANYON, CARIBOU, CASSIA, CLARK,
CUSTER, ELMORE, FRANKLIN, FREMONT, GEM GOODING, JEFFERSON,
JEROME, LEMHI (REMAINDER), LINCOLN, MADISON, MINIDOKA, ONEIDA,
OWYHEE, PAYETTE, POWER, TETON, TWIN FALLS, VALLEY (SE 2/3) AND
WASHINGTON (SE 1/2) COUNTIES

IRONWORKERS	20. 57	9. 66
-------------	--------	-------

LAB00155A 01/01/2003

Rates Fringes

AREA 2: (Anyone working on HAZMAT
jobs working with supplied air
shall receive \$1.00 per hour
above classification)

THERE IS A HAZMAT CLASSIFICATION IN EACH GROUP

LABORERS:

ZONE 1:

GROUP 1	18. 88	7. 15
GROUP 2	18. 98	7. 15
GROUP 3	19. 08	7. 15
GROUP 4	19. 18	7. 15
GROUP 5	19. 23	7. 15
GROUP 6	19. 48	7. 15
GROUP 7	19. 73	7. 15
GROUP 8	19. 13	7. 15
GROUP 9	19. 28	7. 15
GROUP 10	19. 38	7. 15

If a project is located in more than one zone the lower zone
rate shall apply

Zone Differential (Add to Zone 1 rate): Zone 2 - \$1.50

Zone 1: That area within the State of Idaho located within 30
miles on either side of I-84 from the Oregon-Idaho State Line on
the West to the Intersection of I-84 and I-86 in Cassia County,
then following I-86 to Pocatello, then following I-15 to Idaho
Falls, then following State Highway #20 - 10 miles north to the
intersection with Moody Road then following I-15 south from the
city of Pocatello to a point 10 miles South of the Southern
Boundary of Bannock County extended to the West.

Zone 2: The remaining area of that portion of the State of Idaho
south of Parallel 46 (the Washington-Oregon State Line extended
eastward to Montana) that is not included in Zone 1 as described
above.

LABORERS CLASSIFICATIONS

GROUP 1: General laborers; Sloper, cleaning and grading; Form
stripper; Concrete crew; Concrete curing crew; Carpenter tender;
Asphalt laborer; Hopper tender; Flagman (including Pilot car);
Watchman; Heater Tender; Stake jumper; Choker setters; Spreader
and weighman; Scouring concrete; Rip Rap Man (hand placed);
Crusher tender; Cribbing and shoring (in open ditches); Machinery
and parts cleaner; Leverman, manual or mechanical; Demolition,
salvage; Landscaper; Tool roomman; Traffic Stripping Crew;
Asbestos Abatement Laborers; Janitor (detail clean-up, such as

but not limited to cleaning floors, ceilings, walls, windows, etc., prior to final acceptance by the owner)

GROUP 2: Chuck tender; Driller tender; Air tampers; Gunnite nozzle man tender; Pipewrapper; Tar pot tender; Concrete sawyer; Concrete Grinder; Signalman, handling cement; Dumpman; Steam nozzle man; Air and water nozzle man (Green Cutter, Concrete); Vibrator (less than 4"); Pumpcrete and grout pump crew; hydraulic Monitor; Hydro Blaster

GROUP 3: Pipelayer, including sewer, drainage, sprinkler systems and water lines; Free Air Caisson; Jackhammer; Paving Breaker; Chipping Gun Concrete; Powderman Tender; Asphalt Raker; Gasoline powered Tamper; Electric Ballast Tamper; Sand Blasting; Form Setter, airport paving; Gunman (Gunitite); Manhole Setter; Hand guided machines, such as Roto Tillers, Trenchers, Post-Hole Diggers, Walking Garden Tractors, etc.; Cutting Torch

GROUP 4: Hod Carrier; Mason Tender; Plaster Tender; Mason Tender (concrete); Terrazzo-Tile Tender

GROUP 5: Highscaler; Wagon Drill; Grade Checker; Gunnite Nozzle man; Timber faller and buckler

GROUP 6: Diamond Drills; Drillers on Drills with Manufacturers rating 3" or over

GROUP 7: Powderman

UNDERGROUND WORK

GROUP 8: Reboundman; Chucktender; Nipper; Dumpman; Vibrator (less than 4"); Brakeman; Mucker; Bullgang

GROUP 9: Form Setter and Mover

GROUP 10: Miners; Machineman; Timbermen; Steelmen; Drill Doctors; Spaders and Tuggers; Spilling and/or Caisson Workers; Vibrator (over 4")

LAB00238B 06/01/2002

	Rates	Fringes
AREA 1:		
LABORERS:		
ZONE 1:		
GROUP 1	17.66	5.50
GROUP 2	19.76	5.50
GROUP 3	20.03	5.50
GROUP 4	20.30	5.50
GROUP 5	20.58	5.50
GROUP 6	21.95	5.50

Zone Differential (Add to Zone 1 rates): Zone 2 - \$2.00

BASE POINTS: Spokane, Moses Lake, Pasco, Lewiston

Zone 1: 0-45 radius miles from the main post office.

Zone 2: 45 radius miles and over from the main post office

LABORERS CLASSIFICATIONS

GROUP 1: Flagman; Landscape Laborer, Scaleman; Traffic Control Maintenance Laborer (to include erection and maintenance of barricades, signs, and relief of flagperson); Window Washer;

Washer/Cleaner(Detail cleanup, such as but not limited to cleaning floors, ceilings, walls, windows, etc. prior to final acceptance by the owner)

GROUP 2: Asbestos Abatement Worker; Brush Hog Feeder; Carpenter Tender; Cement Handler; Cleanup laborer; Concrete Crewman (to include stripping of forms, hand operating jacks on slip form construction, application of concrete curing compounds, pumpcrete machine, signaling, handling the nozzle of squeezecrete or similar machine, 6 inches and smaller); Concrete Signalman; Crusher Feeder; Demolition (to include clean-up, burning, loading, wrecking and salvage of all material); Dumpman; Fence Erector; Form Cleaning Machine Feeder, Stacker; General Laborer; Grout Machine Header Tender; Guard Rail (to include guard rails, guide and reference posts, sign posts, and right-of-way markers); Hazardous Waste Worker; Miner, Class "A" (to include bull gang, concrete crewman, dumpman and pumpcrete crewman, including

distributing pipe, assembly and dismantle, and nipper); Nipper; Riprap Man; Sandblast Tailhoseman; Scaffold Erector (wood or steel); Stake Jumper; Structural Mover (to include separating foundation, preparation, cribbing, shoring, jacking and unloading of structures); Tailhoseman (water nozzle); Timber Bucker and Faller (by hand); Track Laborer (RR); Truck Loader; Well-Point Man

GROUP 3: Asphalt Roller, walking; Cement Finisher Tender; Concrete Saw, walking; Demolition Torch; Dope Pot Firemen, non-mechanical; Form Setter, paving; Grader Checker Using Level; Jackhammer Operator Miner, Class B (to include brakeman, finisher, vibrator, form setter); Nozzleman (to include squeeze and flo-crete nozzle); Nozzleman, water, air or steam; Pavement Breaker (under 90 lbs.); Pipelayer, corrugated metal culvert; Pipelayer, multi-plate; Pot Tender; Power Buggy Operator; Power Tool Operator, gas, electric, pneumatic; Railroad Equipment, power driven, except dual mobile power spiker or puller; Railroad Power Spiker or Puller, dual mobile; Rodder and Spreader; Tamper (to include operation of Barco, Essex and similar tampers); Trencher, Shawnee; Tugger Operator; Wagon Drills; Water Pipe Liner; Wheelbarrow, power driven

GROUP 4: Air and Hydraulic Track Drill; Asphalt Raker; Brush Machine (to include, horizontal construction joint clean-up brush machine, power propelled); Caisson Worker, free air; Chain Saw Operator and Faller; Concrete Stack (to include laborers when working on free standing concrete stacks for smoke or fume control above 40 feet high); Gunnite (to include operation of machine and nozzle); High Scaler; Miner, Class C (to include miner, nozzleman for concrete, laser beam operator and operator and rigger on tunnels); Monitor Operator, air track or similar mounting; Mortar Mixer; Nozzleman (to include jet blasting nozzle, over 1,200 lbs., jet blast machine power-propelled, sandblast nozzle); Pavement Breaker, 90 lbs. and over Pipelayer (to include working topman, caulker, collerman, jointer, mortarman, rigger, jacker, shorer, valve or meter installer, tamper); Pipewrapper; Plasterer Tenders; Vibrators, all

GROUP 5 - Drills with dual masts; Hazardous Waste Worker, Level A; Miner Class "D" (to include raise and shaft miner, laser beam operator on raises and shafts)

GROUP 6 - Powderman

	Rates	Fringes
AREA 1		
HOD CARRIERS	21.55	5.50

PAIN0005E 07/01/2002		
KOOTENAI COUNTY	Rates	Fringes

PAINTERS*:

Brush, Roller, Paperhanger,
striping, Steam Cleaning and
Spray

18.97	5.32
-------	------

*\$.70 shall be paid over and above the basic wage rates listed for work on swing stages and high work over 30 feet.

PLAS0072A 06/01/2002		
AREA 1:	Rates	Fringes
ZONE 1:		
CEMENT MASONS	22.33	5.98

Zone Differential (Add to Zone 1 rate): Zone 2 - \$2.00

BASE POINTS: Spokane, Moses Lake, Pasco, and Lewiston

Zone 1: 0-45 radius miles from the main post office

Zone 2: Over 45 radius miles from the main post office

PLAS0219B 01/01/2003		
AREA 2:	Rates	Fringes
CEMENT MASONS:		
ZONE 1		
GROUP 1	15.66	12.85
GROUP 2	15.86	12.85

If a project is located in more than one zone the lower zone rate shall apply

Zone Differential (add to Zone 1 rate): Zone 2 - \$1.50

Zone 1: That area within the State of Idaho located within 30 miles on either side of I-84 from the Oregon-Idaho State Line on the West to the Intersection of I-84 and I-86 in Cassia County, then following I-86 to Pocatello, then following I-15 to Idaho Falls, then following State Highway #20 - 10 miles north to the intersection with Moody Road then following I-15 south from the city of Pocatello to a point 10 miles South of the Southern Boundary of Bannock County extended to the West.

Zone 2: The remaining area of that portion of the State of Idaho south of Parallel 46 (the Washington-Oregon State Line extended eastward to Montana) that is not included in Zone 1 as described above.

CEMENT MASONS CLASSIFICATIONS

GROUP 1: - JOURNEYMAN CEMENT MASON (including but not limited to hand chipping and patching, all types grouting and pointing of all concrete constructions, screed setting including screed pins, dry packing of all concrete including Embeco, plugging and filling all voids, etc., concrete construction, waterproofing of concrete with Thoroseal or similar materials.

GROUP 2: - CEMENT MASON (magnesite terazzo and mastic composition, two component epoxies, Clary and similar type screed operator, sandblasting of concrete for architectural finished only, Power chipping and bushhammer, all color concrete work, Power Trowel Operator, Power Grinder Operator, Gunnite and Composition Floor Layer).

PLUM0044D 06/01/2002		
	Rates	Fringes
NEZ PERCE COUNTY		
PLUMBERS & PIPEFITTERS	29. 71	9. 89
BONNER, BOUNDARY, CLEARWATER, IDAHO(NORTHERN PART), KOOTENAI, LATH, LEWIS AND SHOSHONE COUNTIES		
PLUMBERS AND PIPEFITTERS	28. 21	9. 89

PLUM0296A 06/01/2002		
	Rates	Fringes
AREA 2:		
PLUMBERS AND PIPEFITTERS	23. 54	8. 02

TEAM0483A 01/01/2003		
	Rates	Fringes
AREA 2: (Anyone working on HAZMAT jobs working with supplied air shall receive \$1.00 per hour above classification)		

THERE IS A HAZMAT CLASSIFICATION INCLUDED IN EACH GROUP

TRUCK DRIVERS:

ZONE 1		
GROUP 1	18. 72	8. 30
GROUP 2	19. 09	8. 30
GROUP 3	19. 32	8. 30
GROUP 4	19. 50	8. 30
GROUP 5		
CLASS A	19. 32	8. 30
B	19. 50	8. 30
C	19. 73	8. 30
D	20. 24	8. 30
E	20. 47	8. 30
F	20. 91	8. 30

If a project is located in more than one zone the lower zone rate shall apply

Zone Differential (Add to Zone 1 Rate): Zone 2 - \$1.50

Zone 1: That area within the State of Idaho located within 30 miles on either side of I-84 from the Oregon-Idaho State Line on the West to the Intersection of I-84 and I-86 in Cassia County,

then following I-86 to Pocatello, then following I-15 to Idaho Falls, then following State Highway #20 - 10 miles north to the intersection with Moody Road then following I-15 south from the city of Pocatello to a point 10 miles South of the Southern Boundary of Bannock County extended to the West.

Zone 2: The remaining area of that portion of the State of Idaho south of Parallel 46 (the Washington-Oregon State Line extended eastward to Montana) that is not included in Zone 1 as described above.

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Leverman Loading at Bunkers; Pilot Car or Escort Driver Flat Bed-2 Axle and Pickup Hauling material; Water Truck (1,000 gallons and under); Ambulance Driver; Flat Bed-3 Axle; Fuel Truck (1,000 gallons and under); Greaser; Tireman; Serviceman; Buggymobile; Manhaul (Shuttle Truck or Bus)

GROUP 2: Slurry or Concrete Pumping Truck; Flat Bed using Power Takeoff; Semi Trailer-Low Boy (up to 96,000 lbs. GVW); Bulk Cement Tanker (up to 96,000 lbs. GVW); Fork Lift (Bull Lift, Hydro Lift), Ross Hyster and similar Straddle equipment; "A" Frame Truck (Swedish Crane, Iowa 3,000 Hydro Lift); Transit Mix Truck (0-10 yds); Warehouseman Loading and Unloading

GROUP 3: Water Tank Truck; Fuel Truck (over 1,000 gallons); Transit Mix Trucks (10 yards & over), Dumpsters; Distributor or Spreader Truck; Field Tireman-Serviceman; Snow Plow (Truck Mounted); Warehouseman; Counterman, Shipping Receiving, Cardex.

GROUP 4: Low Boy (96,000 lbs. GVW & over); Bulk Cement Tanker (96,000 lbs. GVW & over); Transit Mix Trucks (over 10 yards); Turnarocker & similar equipment; Warehouseman General

GROUP 5:

CLASS: A - Truck - Side, end and bottom dump, 0-16 yards, inclusive.

B - Truck - Side, end and bottom dump, 16-30 yards, inclusive.

C - Truck - Side, end and bottom dump, 30-50 yards, inclusive, and Truck Mechanic.

D - Truck - Side, end and bottom dump, 50-75 yards, inclusive.

E - Truck - Side, end and bottom dump, 75-100 yards inclusive.

F - Truck - Side, end and bottom dump, over 100

yards.

TEAM0690A 06/01/2002

AREA 1: (ANYONE WORKING ON HAZMAT JOBS SEE FOOTNOTE A BELOW)

TRUCK DRIVERS:

ZONE 1:

GROUP 1	17.73	8.50
GROUP 2	20.00	8.50
GROUP 3	20.50	8.50
GROUP 4	20.83	8.50
GROUP 5	20.94	8.50
GROUP 6	21.11	8.50

GROUP 7	21.64	8.50
GROUP 8	21.97	8.50

Zone Differential (Add to Zone 1 rate): Zone 2 - \$2.00)

BASE POINTS: Spokane, Moses Lake, Pasco, Lewiston

Zone 1: 0-45 radius miles from the main post office

Zone 2: 45 radius miles and over from the main post office

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Escort Driver or Pilot Car; Employee Haul; Power Boat Hauling Employees or Material

GROUP 2: Fish Truck; Flat Bed Truck; Fork Lift (3000 lbs. and under); Leverperson (loading trucks at bunkers); Trailer Mounted Hydro Seeder and Mulcher; Seeder & Mulcher; Stationary Fuel Operator; Tractor (small, rubber-tired, pulling trailer or similar equipment)

GROUP 3: Auto Crane (2000 lbs. capacity); Buggy Mobile & Similar; Bulk Cement Tanks & Spreader; Dumptor (6 yds. & under); Flat Bed Truck with Hydraulic System; Fork Lift (3001-16,000 lbs.); Fuel Truck Driver; Steamcleaner & Washer; Power Operated Sweeper; Rubber-tired Tunnel Jumbo; Scissors Truck; Slurry Truck Driver; Straddle Carrier (Ross, Hyster, & similar); Tireperson; Transit Mixers & Truck Hauling Concrete (3 yd. to & including 6 yds.); Trucks, side, end, bottom & articulated end dump (3 yards to and including 6 yards); Warehouseperson (to include shipping & receiving); Wrecker & Tow Truck

GROUP 4: A-Frame; Burner, Cutter, & Welder; Service Greaser; Trucks, side, end, bottom & articulated end dump (over 6 yds. to & including 12 yds.); Truck Mounted Hydro Seeder; Warehouseperson; Water Tank Truck (0-8000 gallons)

GROUP 5: Dumptor (over 6 yds.); Lowboy (50 tons & under); Self-loading Roll Off; Semi-Truck & Trailer; Tractor with Steer

Trailer; Transit Mixers and Trucks Hauling Concrete (over 6 yds. to and including 10 yds.); Trucks, side, end, bottom & articulated end dump (over 12 yds. to & including 20 yds.); Truck-Mounted Crane (with load bearing surface either mounted or pulled), up to 14 ton; Vacuum truck (super sucker, guzzler, etc.); Water Tank Truck (8,001-14,000 gallons)

GROUP 6: Flaherty Spreader Box Driver; Flowboys; Fork Lift (over 16,000 lbs.); Dumps (Semi-end); Lowboy (over 50 tons); Mechanic (Field); Transfer Truck & Trailer; Transit Mixers & Trucks Hauling Concrete (over 10 yds. to & including 20 yds.); Trucks, side, end, bottom & articulated end dump (over 20 yds. to & including 40 yds.); Truck and Pup; Tournarocker, DW's & similar, with 2 or more 4 wheel-power tractor with trailer, gallonage or yardage scale, whichever is greater; Water Tank Truck (8001-14,000 gallons)

GROUP 7: Oil Distributor Driver; Stringer Truck (cable operated trailer); Transit Mixers & Trucks Hauling Concrete (over 20 yds.); Truck, side, end, bottom & articulated end dump (over 40 yds. to & including 100 yds.); Truck mounted Crane (with load bearing surface either mounted or pulled (16 through 25 tons)

GROUP 8: Prime Movers & Stinger Truck; Trucks, side, end,

bottom and articulated end dump (over 100 yds.);
Helicopter Pilot Hauling Employees or Materials

FOOTNOTE A - Anyone working on a HAZMAT job, where HAZMAT certification is required, shall be compensated as a premium, in addition to the classification working in as follows:

LEVEL C-D: - \$.50 PER HOUR - This is the lowest level of protection. This level may use an air purifying respirator or additional protective clothing.

LEVEL A-B: - \$1.00 PER HOUR - Uses supplied air in conjunction with a chemical splash suit or fully encapsulated suit with self-contained breathing apparatus.

NOTE: Trucks Pulling Equipment Trailers: shall receive \$.15/hour over applicable truck rate

AREA DEFINITIONS-APPLIES TO ALL CRAFTS

AREA 1:

Benewah, Bonner, Boundary, Clearwater, Idaho (North of the 46th Parallel), Kootenai, Latah, Lewis, Nez Perce, and Shoshone Counties.

AREA 2:

Ada, Adams, Bannock, Bear Lake, Bingham, Blaine, Boise, Butte, Bonneville, Camas, Canyon, Caribou, Cassia, Clark, Custer, Elmore, Franklin, Fremont, Gem, Gooding, Idaho (South of the 46th Parallel), Jefferson, Jerome, Lemhi, Lincoln, Madison, Minidoka, Oneida, Owyhee, Payette, Power, Teton, Twin Falls, Valley, and Washington Counties.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

In the listing above, the "SU" designation means that rates listed under that identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the

Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.
END OF GENERAL DECISION

Section I - Contract Clauses

CLAUSES INCORPORATED BY REFERENCE

52.204-7	Central Contractor Registration	OCT 2003
52.222-6	Davis Bacon Act	FEB 1995
52.222-7	Withholding of Funds	FEB 1988
52.222-8	Payrolls and Basic Records	FEB 1988
52.222-9	Apprentices and Trainees	FEB 1988
52.222-10	Compliance with Copeland Act Requirements	FEB 1988
52.222-11	Subcontracts (Labor Standards)	FEB 1988
52.222-12	Contract Termination-Debarment	FEB 1988
52.222-13	Compliance with Davis -Bacon and Related Act Regulations.	FEB 1988
52.222-14	Disputes Concerning Labor Standards	FEB 1988
52.222-15	Certification of Eligibility	FEB 1988
52.228-14	Irrevocable Letter of Credit	DEC 1999
52.232-5	Payments under Fixed-Price Construction Contracts	SEP 2002
52.236-2	Differing Site Conditions	APR 1984
52.236-3	Site Investigation and Conditions Affecting the Work	APR 1984
52.236-5	Material and Workmanship	APR 1984
52.236-7	Permits and Responsibilities	NOV 1991
52.236-12	Cleaning Up	APR 1984
52.236-13	Accident Prevention	NOV 1991
52.236-17	Layout of Work	APR 1984
52.243-5	Changes and Changed Conditions	APR 1984
52.245-4	Government-Furnished Property (Short Form)	JUN 2003
52.246-21	Warranty of Construction	MAR 1994

CLAUSES INCORPORATED BY FULL TEXT

52.213-4 TERMS AND CONDITIONS--SIMPLIFIED ACQUISITIONS (OTHER THAN COMMERCIAL ITEMS)
(JAN 2005)

(a) The Contractor shall comply with the following Federal Acquisition Regulation (FAR) clauses that are incorporated by reference:

(1) The clauses listed below implement provisions of law or Executive order:

(i) 52.222-3, Convict Labor (June 2003) (E.O. 11755).

(ii) 52.222-21, Prohibition of Segregated Facilities (Feb 1999) (E.O. 11246).

(iii) 52.222-26, Equal Opportunity (Apr 2002) (E.O. 11246).

(iv) 52.225-13, Restrictions on Certain Foreign Purchases (MAR 2005) (E.o.s, proclamations, and statutes administered by the Office of Foreign Assets Control of the Department of the Treasury).

(v) 52.233-3, Protest After Award (Aug 1996) (31 U.S.C. 3553).

(vi) 52.233-4, Applicable Law for Breach of Contract Claim (OCT 2004) (Pub. L. 108-77, 108-78).

(2) Listed below are additional clauses that apply:

(i) 52.232-1, Payments (Apr 1984).

(ii) 52.232-8, Discounts for Prompt Payment (Feb 2002).

(iii) 52.232-11, Extras (Apr 1984).

(iv) 52.232-25, Prompt Payment (Oct 2003).

(v) 52.233-1, Disputes (Jul 2002).

(vi) 52.244-6, Subcontracts for Commercial Items (Jul 2004).

(vii) 52.253-1, Computer Generated Forms (Jan 1991).

(b) The Contractor shall comply with the following FAR clauses, incorporated by reference, unless the circumstances do not apply:

(1) The clauses listed below implement provisions of law or Executive order:

(i) 52.222-19, Child Labor--Cooperation with Authorities and Remedies (Jun 2004) (E.O. 13126). (Applies to contracts for supplies exceeding the micro-purchase threshold.)

(ii) 52.222-20, Walsh-Healey Public Contracts Act (DEC 1996) (41 U.S.C. 35-45) (Applies to supply contracts over \$10,000 in the United States, Puerto Rico, or the U.S. Virgin Islands).

(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212) (Applies to contracts of \$25,000 or more).

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (JUN 1998) (29 U.S.C. 793) (Applies to contracts over \$10,000, unless the work is to be performed outside the United States by employees recruited outside the United States.) (For purposes of this clause, United States includes the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.)

(v) 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212) (Applies to contracts over \$25,000).

(vi) 52.222-41, Service Contract Act, As Amended (May 1989) (41 U.S.C. 351, et seq.) (Applies to service contracts over \$2,500 that are subject to the Service Contract Act and will be performed in the United States, District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, Johnston Island, Wake Island, or the outer continental shelf lands.)

(vii) 52.223-5, Pollution Prevention and Right-to-Know Information (Aug 2003) (E.O. 13148) (Applies to services performed on Federal facilities).

(viii) 52.225-1, Buy American Act--Supplies (June 2003) (41 U.S.C. 10a-10d) (Applies to contracts for supplies, and to contracts for services involving the furnishing of supplies, for use in the United States or its outlying areas, if the value of the supply contract or supply portion of a service contract exceeds the micro-purchase threshold and the **acquisition--**

(A) Is set aside for small business concerns; or

(B) Cannot be set aside for small business concerns (see 19.502-2), and does not exceed \$25,000.)

(ix) 52.232-33, Payment by Electronic Funds Transfer--Central Contractor Registration (May 1999). (Applies when the payment will be made by electronic funds transfer (EFT) and the payment office uses the Central Contractor Registration (CCR) database as its source of EFT information.)

(x) 52.232-34, Payment by Electronic Funds Transfer--Other than Central Contractor Registration (Oct 2003). (Applies when the payment will be made by EFT and the payment office does not use the CCR database as its source of EFT information.)

(xi) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (APR 2003) (46 U.S.C. Appx 1241). (Applies to supplies transported by ocean vessels (except for the types of subcontracts listed at 47.504(d).)

(2) Listed below are additional clauses that may apply:

(i) 52.209-6, Protecting the Government's Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment (JAN 2005) (Applies to contracts over \$25,000).

(ii) 52.211-17, Delivery of Excess Quantities (SEPT 1989) (Applies to fixed-price supplies).

(iii) 52.247-29, F.o.b. Origin (JUN 1988) (Applies to supplies if delivery is f.o.b. origin).

(iv) 52.247-34, F.o.b. Destination (NOV 1991) (Applies to supplies if delivery is f.o.b. destination).

(c) FAR 52.252-2, Clauses Incorporated by Reference (FEB 1998). This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

DFAR: <http://www.acq.osd.mil/dp/dars/dfars.html>

(d) Inspection/Acceptance. The Contractor shall tender for acceptance only those items that conform to the requirements of this contract. The Government reserves the right to inspect or test any supplies or services that have been tendered for acceptance. The Government may require repair or replacement of nonconforming supplies or reperformance of nonconforming services at no increase in contract price. The Government must exercise its postacceptance rights--

(1) Within a reasonable period of time after the defect was discovered or should have been discovered; and

(2) Before any substantial change occurs in the condition of the item, unless the change is due to the defect in the item.

(e) Excusable delays. The Contractor shall be liable for default unless nonperformance is caused by an occurrence beyond the reasonable control of the Contractor and without its fault or negligence, such as acts of God or the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, unusually severe weather, and delays of common carriers. The Contractor shall notify the Contracting Officer in writing as soon as it is reasonably possible after the commencement of any excusable delay, setting forth the full particulars in connection therewith, shall remedy such occurrence with all reasonable dispatch, and shall promptly give written notice to the Contracting Officer of the cessation of such occurrence.

(f) Termination for the Government's convenience. The Government reserves the right to terminate this contract, or any part hereof, for its sole convenience. In the event of such termination, the Contractor shall immediately stop all

work hereunder and shall immediately cause any and all of its suppliers and subcontractors to cease work. Subject to the terms of this contract, the Contractor shall be paid a percentage of the contract price reflecting the percentage of the work performed prior to the notice of termination, plus reasonable charges that the Contractor can demonstrate to the satisfaction of the Government, using its standard record keeping system, have resulted from the termination. The Contractor shall not be required to comply with the cost accounting standards or contract cost principles for this purpose. This paragraph does not give the Government any right to audit the Contractor's records. The Contractor shall not be paid for any work performed or costs incurred that reasonably could have been avoided.

(g) Termination for cause. The Government may terminate this contract, or any part hereof, for cause in the event of any default by the Contractor, or if the Contractor fails to comply with any contract terms and conditions, or fails to provide the Government, upon request, with adequate assurances of future performance. In the event of termination for cause, the Government shall not be liable to the Contractor for any amount for supplies or services not accepted, and the Contractor shall be liable to the Government for any and all rights and remedies provided by law. If it is determined that the Government improperly terminated this contract for default, such termination shall be deemed a termination for convenience.

(h) Warranty. The Contractor warrants and implies that the items delivered hereunder are merchantable and fit for use for the particular purpose described in this contract.

(End of clause)

52.228-13 ALTERNATIVE PAYMENT PROTECTIONS (JULY 2000)

(a) The Contractor shall submit one of the following payment protections:

100% Payment Bond or Irrevocable Letter of Credit

(b) The amount of the payment protection shall be 100 percent of the contract price.

(c) The submission of the payment protection is required within 10 days of contract award.

(d) The payment protection shall provide protection for the full contract performance period plus a one-year period.

(e) Except for escrow agreements and payment bonds, which provide their own protection procedures, the Contracting Officer is authorized to access funds under the payment protection when it has been alleged in writing by a supplier of labor or material that a nonpayment has occurred, and to withhold such funds pending resolution by administrative or judicial proceedings or mutual agreement of the parties.

(f) When a tripartite escrow agreement is used, the Contractor shall utilize only suppliers of labor and material that signed the escrow agreement.

(End of clause)